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1958
Report of Alfalfa Nurseries
Eastern Alfalfa Improvement Conference

Conducted cooperatively with the various
State Agricultural Experiment Stations
and
The United States Department of Agriculture,
Agricultural Research Service, Forage and Range
Research Branch in Eastern United States

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1958
Report of Alfalfa Nurseries
Eastern Alfalfa Improvement Conference

Reported compiled by C. H. Hanson, Research Agronomist, Forage and Range Research Branch, Agricultural Research Service, U. S. Department of Agriculture.

INTRODUCTION

This is the third Alfalfa Nurseries Report assembled by the Eastern Alfalfa Improvement Conference. Reports submitted by the various States comprise data from an array of alfalfa breeding materials and varieties. The data in this compilation are inconclusive and represent progress reports only, and as such may contain findings which may or may not be verified in subsequent experiments. Data reported, and statements contained herein, do not constitute publication. For this reason, citation to any part of this Report should not be published without prior permission from the Experiment Station(s) and worker(s) concerned.

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Cooperative Variety Trials in the Southeastern States

Reported by
M. S. Offutt and James Jacks, Arkansas; E. R. Beaty, Georgia; W. H. Stroube, Kentucky; C. H. Hanson, North Carolina; H. A. Fribourg, Tennesee; and P. T. Gish and T. J. Smith, Virginia

Summary

Data from 10 locations in 6 States are included in this report, with all stations reporting in 1958. An attempt was made to seed all tests in 1955, with determination of yield beginning the following year. This was not successful in all cases and some of the tests had to be seeded, or reseeded, the following year.

The following varieties were included at each of the 10 locations: Atlantic, Buffalo, Du Puits, Vernal, and Williamsburg. Narragansett was included in all but one. The number of locations for the 5 North Carolina Synthetics varied from 8 to 10 depending upon the seed supply for any one Synthetic. In addition to this core of 11 entries, the individual tests included any other varieties that the cooperator wished to add.

Information on seeding date, rate of seeding, fertilization, soil type, etc., is given in Table 6. Tables 1 and 2 contain data for 1956 and 1957, respectively. 1958 yields are given in Table 3; the 3-year yield summary and stand scores are shown in Table 4. Yields and stand are expressed as percentage of check, the check being the average of Atlantic, Williamsburg and Buffalo. Miscellaneous scores are given in Table 5.

Rankings of the 11 "core" entries in descending order to forage yield and stand are given below.

Entries with hay yields numerically higher than the check average in 1958:

N.C. Syn. D(51)10
N.C. Syn. B(51)6
N.C. Syn. A(51)5
N.C. Syn. D(51)12
Williamsburg
N.C. Syn. B(51)7

Entries with numerically better stands than the check average in 1958:

N.C. Syn. B(51)7
N.C. Syn. D(51)12
N.C. Syn. B(51)6
N.C. Syn D(51)10
N.C. Syn. A(51)5
Williamsburg

Entries with hay yields numerically higher than the check average for the 3-year period of 1956, 1957, and 1958:

N.C. Syn. B(51)6
N.C. Syn. D(51)10
N.C. Syn. D(51)12
N.C. Syn. A(51)5
Du Puits
N.C. Syn. B(51)7
Williamsburg
Narragansett
Atlantic
Vernal

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Table 1. Seasonal yield of alfalfa varieties in percentage of checks and disease scores[1] at each of 5 locations. First year data. 1956.

Variety	Locations: Blacksburg Va. (3 cuts)	Rocky Mt. N.C. (1 cut)	Salisbury N.C. (3 cuts)	Athens Ga. (4 cuts)	Osceola Ark. (4 cuts)	Weighted[2] Ave.	Disease scores: Va. L. spots[3]	N.C. Stemph[4] L.spot	Arkansas L. spot[3]	Arkansas Anthrac.[5] (root rot)
I Standard varieties										
Du Puits	102.2	107.5	143 0	110.0	87.4	112.5	3.2	1.0	3.8	8
Narragansett	107.0	107.5	131.7	97.9	82.3	107.6	4.6	2.0	3.5	3
Atlantic	113.3	94.6	110.3	102.3	96.3	104.0	5.2	3.8	4.7	3
Vernal	113.1	101.0	127.7	90.8	92.1	103.6	4.1	2.5	3.2	3
Kansas Com.					102.6	102.6			3.7	4
Williamsburg	94.1	105.4	99.7	110.7	101.9	102.5	6.2	2.2	5.5	5
Ranger					99.6	99.6			2.7	4
Okla. Com.				89.4	101.2	95.3			6.0	5
Buffalo	92.6	101.0	90.0	86.9	101.9	93.6	6.1	2.2	5.0	5
Caliverde		121.5			85.6	92.8		2.5	5.7	4
Lahonton					91.6	91.6		5.0	5.5	4
II Experimental entries										
N.C. Syn.A(51)5	104.2	117.2	115.7	110.8	94.1	106.4	4.9	2.2	3.0	3
N.C. Syn.B(51)6	104.1	121.5	114.7			111.1	5.5	1.5		
N.C. Syn.B(51)7	100.4	111.8	121.7	104.4	94.3	104.9	4.9	1.8	2.7	2
N.C. Syn.D(51)10	96.4	110.8	117.7		108.9	108.1	5.5	2.0	3.2	2
N.C. Syn.D(51)12	110.0	107.5	114.3	113.9	110.9	111.8	4.8	3.0	4.5	2
N.C.M.S.A.(55)		100.0	105.0			103.8				
N.C.M.S.B.(55)		108.6	124.0			120.2				
A-223					80.5	80.5			4.0	4
A-227					89 9	89.9			4.2	4
Italy(016SS)					91.5	91.5			4.7	5
Hairy Peruvian					88.9	88.9			4.0	4
Ariz. Chilean					86.2	86.2			5.0	4
Argentine					64.3	64.3			5.5	5
Indian		109.7		94.3		97.4		2.5		
Chilean 215		121.5		91.7		96.7		1.8		

Table 1 . Continued

Variety	Locations: Blacksburg Va. (3 cuts)	Rocky Mt. N.C. (1 cut)	Salisbury N.C. (3 cuts)	Athens Ga. (4 cuts)	Osceola Ark. (4 cuts)	Weighted[2] Ave.	Disease Scores: Va. L. spots[3]	N.C. Stemph[4] L.spot	Arkansas L.spot[3]	Arkansas Anthrac.[5] (root rot)
African		114.0				114.0		3.5		
Pilca Butta		107.5				107.5		2.5		
Talent		105.4				105.4		3.5		
Indiana Syn.F								2.2		
Socheville								1.0		
LSD (.05)	13.2	14.9	10.0	9.6				.45		
LSD (.01)	18.0	22.6	13.3					.65		
C.V.(%)	8.8	11	6	13.2				10		
Actual yields of checks (tons/A)										
Atlantic	3.26	.88	3.31	3.06	5.51	3.66				
Buffalo	2.67	.94	2.70	2.60	5.02	3.38				
Williamsburg	2.71	.98	2.99	3.31	5.83	3.64				
Ave. of checks	2.88	.93	3.00	2.99	5.72	3.56				

1/ Checks - Average of Atlantic, Buffalo and Williamsburg
2/ Average obtained from percentages, weighting the percentage for any one location according to the number of cuttings.
3/ Leaf spots not identified. Scores 1-10, 1 = least.*
4/ From fall 1956 planting at Rocky Mount. Scores 1-5, 1 = least.*
5/ Considerable anthracnose also noted on Du Puits at Raleigh, N.C., and on Du Puits and Vernal at Blacksburg, Va. Scores 1-10, 1 = least.*

* Most resistant

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Table 2. Seasonal yield of alfalfa varieties in percentage of checks[1/] at each of 9 locations in 1957. Second year data for Rocky Mount, N.C., Salisbury, N.C., Athens, Ga., and Osceola, Ark. First year data for other locations. Blacksburg, Va. included in 1956.

Variety	Locations									Average		
	Waynesville, N.C. (3 cuts)	Rocky Mt., N.C. (4 cuts)	Salisbury, N.C. (3 cuts)	Athens Ga. (6 cuts)	Woodford Co. Ky. (3 cuts)	Princeton Co. Ky. (3 cuts)	Blount Co. Tenn. (3 cuts)	Fayetteville, Ark. (3 cuts)	Osceola Ark. (5 cuts)	1957	1956	1956 & 1957
I Standard Varieties												
Du Puits	134.6	94.8	126.0	94.2	115.4	102.9	140.8	82.0	83.4	108.2	112.5	110.4
Narragansett	118.9	97.5	113.0	86.9	106.7	105.8	106.1		96.6	103.9	107.6	105.8
Atlantic	103.7	101.0	96.6	94.1	108.1	97.5	98.3	97.3	100.9	99.7	104.0	101.9
Vernal	105.5	75.7	106.8	84.7	109.9	95.1	110.9	108.8	97.6	99.4	103.6	101.5
Kansas Com.									102.2	102.2	102.6	102.4
Williamsburg	106.9	113.1	109.6	103.6	95.6	103.4	100.7	108.8	105.4	105.2	102.5	103.9
Ranger									95.8	95.8	99.6	97.7
Okla. Com.				96.6					103.1	99.9	95.3	97.6
Buffalo	89.4	85.8	93.9	102.3	96.3	99.1	101.0	94.0	93.8	95.1	93.6	94.4
Caliverde		82.3					81.9	61.8	101.1	81.8	92.8	87.3
Lahontan							88.4	77.1	95.2	86.9	91.6	89.3
II Experimental entries												
N.C.Syn.A(51)5	122.6	99.5	111.0	101.5	112.3	96.3	106.1		110.1	107.4	106.4	106.9
N.C.Syn.B (51)6	127.2	111.6	116.5		106.7	111.9	115.5			114.9	111.1	113.0
N.C.Syn.B(51)7	118.4	102.6	113.4	99.4	102.6	99.4	101.8	98.9	111.1	105.3	104.9	105.1
N.C.Syn.D(51)10	116.1	99.9	116.5		103.6	103.9	111.7		105.0	108.1	108.1	108.1
N.C.Syn.D(51)12	111.5	115.1	115.1	99.9	107.1	99.1	109.2		106.8	108.0	111.8	109.9
N.C.M.S.A.(55)		106.9	108.9							107.9	103.8	105.9
N.C.M.S.B.(55)		110.8	120.0							115.4	120.2	117.8
A-223									95.0	95.0	80.5	87.8
A-227									109.6	109.6	89.9	99.8
Italy (01685)									86.9	86.9	91.5	89.2
Hairy Peruvian									99.0	99.0	88.9	94.0

1/Checks-Average of Atlantic, Buffalo and Williamsburg. This was a dry season at certain locations. At Salisbury, for example, the yield represents harvests obtained prior to July 15.

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Table 2. Continued.

Variety	Locations									Average		
	Waynesville,NC (3 cuts)	Rocky Mt.,NC (4 cuts)	Salisbury,NC (3 cuts)	Athens Ga. (6 cuts)	Woodford Co.Ky. (3 cuts)	Princeton Co.Ky. (3 cuts)	Blount Co.Tenn. (3 cuts)	Fayetteville,Ark. (3 cuts)	Osceola Ark. (5cuts)	1957	1956	1956 & 1957
Ariz. Chilean									103.0	103.0	86.2	94.6
Argentine									96.8	96.8	64.3	80.6
Indian		98.9		97.8						98.4	97.4	97.9
Chilean		82.7		94.7						88.7	96.7	92.7
African		72.2								72.2	114.0	93.1
Pilca Butta		82.3								82.3	107.0	94.7
Talent		72.2								72.2	105.4	88.8
Indiana Syn.F.							99.8	80.8		90.3	-	90.3
Socheville								110.9		110.9	-	110.9
Rambler	78.8									78.8	-	78.8
Canadian Se.Ma 531								83.7		83.7	-	83.7
New Mexico 11-1								89.0		89.0	-	89.0
Actual yield of checks (ton/A)												
Atlantic	2.25	2.59	2.77	2.97	3.11	4.12	2.44	2.36	6.35			
Buffalo	1.94	2.20	2.69	2.23	2.77	4.19	2.51	2.28	5.90			
Williamsburg	2.32	2.90	3.14	3.27	2.75	4.37	2.50	2.64	6.63			
Ave. of checks	2.17	2.56	2.87	2.82	2.88	4.26	2.48	2.43	6.29			
L.S.D..05 in % of checks	13.	19.	11.	n.s.	11.	n.s.	14.	26.	10.			
L.S.D. .01 in % of checks	18.	24.	15.		n.s.	n.s.	n.s.	n.s.	n.s.			
C.V. (%)	8	13	7		12	12	13	14	7			

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Table 3. 1958 Forage yields of alfalfa varieties in percentage of checks[1/] at each of 10 locations. Third year data for Rocky Mount, N. C.; Salisbury, N. C.; Athens, Ga.; and Osceola, Ark. Second year data for other locations. Blacksburg, Va. included in 1956 and 1958.

Variety	Location and year of seeding: Waynesville, N.C. 1956 (3 cuts)	Rocky Mount, N.C. 1955 (4 cuts)	Salisbury, N.C. 1955 (4 cuts)	Woodford Co.Ky. 1956 (4 cuts)	Princeton, Ky. 1956 (3 cuts)	Blacksburg, Va. 1955 (4 cuts)	Athens, Ga. 1955 (7 cuts)	Blount Co. Tenn. 1956 (4 cuts)	Osceola Ark. 1955 (4 cuts)	Fayetteville, Ark. 1956 (4 cuts)	Ave.[3/]
I. Standard varieties											
DuPuits	131.9	94.7	90.3	101.3	98.3	91.5	92.5	112.7	66.9[2/]	98.2	97.8
Narragansett	116.5	109.2	98.4	96.8	100.7	92.7	88.4	102.2	76.2		97.9
Atlantic	102.9	99.6	99.4	97.9	98.0	100.4	93.3	97.8	98.3	99.8	98.7
Vernal	101.1	83.8	101.6	94.3	101.2	90.2	91.2	104.3	95.7	107.0	97.0
Kansas Comm.									105.0		105.0
Williamsburg	109.7	105.0	105.4	104.8	102.7	97.7	104.4	102.9	96.4	100.0	102.9
Ranger									89.4		89.4
Okla. Comm.							88.6		108.6		98.6
Buffalo	87.8	95.4	95.0	97.3	99.5	100.9	102.3	98.5	105.6	100.4	98.3
Caliverde		98.9						81.9	103.3	80.4	91.1
Lahontan								94.2	119.9	75.2	96.4
Nomad								79.0			79.0
II. Experimental entries											
N.C. Syn. A(51)5	117.6	98.2	105.0	99.2	101.2	103.1	102.3	96.7	119.2		104.7
N.C. Syn. B(51)6	121.1	108.8	111.3	102.7	99.5	104.4		105.1			107.6
N.C. Syn. B(51)7	106.1	107.7	107.2	103.6	98.7	104.2	96.1	85.9	117.9	101.1	102.8
N.C. Syn. D(51)10	110.7	114.1	113.2	105.1	100.7	100.2		102.2	124.5		108.8
N.C. Syn. D(51)12	116.5	101.8	110.0	102.5	95.7	104.2	100.2	93.8	109.9		103.8
N.C. M.S.A. (55)		107.4	109.1								108.2
N.C. M.S.B. (55)		109.5	112.9								111.2
A-223									89.7		89.7
A-227									104.6		104.6
Italy (01655)									78.8		78.8
Hairy Peruvian									69.9		69.9

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Table 3. (continued)

	Location and date of seeding										
	Waynesville, N.C. 1956 (3 cuts)	Rocky Mount, N.C. 1955 (4 cuts)	Salisbury, N.C. 1955 (4 cuts)	Woodford Co. Ky. 1956 (4 cuts)	Princeton, Ky. 1956 (3 cuts)	Blacksburg, Va. 1955 (4 cuts)	Athens Ga. 1955 (7 cuts)	Blount Co. Tenn. 1956 (4 cuts)	Osceola Ark. 1955 (4 cuts)	Fayetteville, Ark. 1956 (4 cuts)	Ave.[3]
Ariz. Chilean									91.1		91.1
Argentine									99.0		99.0
Indian		100.7					65.5				83.1
Chilean 215		94.0					58.6				76.3
African		77.5									77.5
Pilea Butta		96.1									96.1
Talent		85.9									85.9
Indiana Syn. F.								92.4	158.3		125.4
Socheville									183.4		183.4
Rambler	70.2										70.2
Canadian Sc. MA. 531										79.1	79.1
New Mexico 11-1										95.4	95.4
Actual yield of checks (ton/A)											
Atlantic	2.87	2.83	3.16	4.64	3.93	4.83	3.58	2.70	2.97	5.39	
Buffalo	2.45	2.71	3.02	4.61	3.99	4.90	3.92	2.72	3.19	5.42	
Williamsburg	3.06	2.98	3.35	4.97	4.12	4.70	4.00	2.84	2.91	5.40	
Ave. of checks	2.79	2.84	3.18	4.74	4.01	4.81	3.83	2.76	3.02	5.40	
L.S.D. .05 in % of checks	16.7	12.8	9.5	7.0	n.s.	n.s.	13.0	21.0	18.9	11.3	
L.S.D. .01 in % of checks	22.4	17.0	13.5	n.s.	n.s.	n.s.	17.4	28.3	25.5	-	
C.V. (%)	10.8	9.0	21.6	4.8	6.8	18.8	10.0	15.4	13.8	8.6	

1/ Checks ave. of Atlantic, Buffalo and Williamsburg.

2/ Ave. of 2 DuPuits entries with different seed sources. Seed from Calif. yielded 1.84T/A, from France yielded 2.19T/A

3/ For 1956, 1957, and 1958 summary and average see Table 4.

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Table 4. Three year average of alfalfa yields, and stand data for 5 of the 10 locations.

Varieties	Hay yields (% checks) 1956	1957	1958	3 Year Ave.	Stand (% checks)[1/] Fayetteville,Ark.	Blacksburg,Va.	Rocky Mt.,N.C.	Salisbury N. C.	Waynesville,N.C.	Ave.
I Standard varieties										
Du Puits	112.5	108.2	97.8	106.2	87.5	66.3	75.3	85.7	93.3	81.6
Narragansett	107.6	103.9	97.9	103.1		85.9	109.1	98.9	92.0	96.5
Atlantic	104.0	99.7	98.7	100.8	97.9	98.9	105.2	98.9	98.7	99.9
Vernal	103.6	99.4	97.0	100.0	97.9	92.4	87.0	98.9	94.7	94.2
Williamsburg	102.5	105.2	102.9	103.5	104.2	102.2	105.2	105.5	100.0	103.4
Ranger	99.6	95.8	89.4	94.9						
Okla. Comm.	95.3	99.9	98.6	97.9						
Buffalo	93.6	95.1	98.3	95.7	97.9	98.9	96.1	95.6	101.3	98.0
Caliverde	92.8	81.8	91.1	88.6	70.8		96.1			83.4
Lahontan	91.6	86.9	96.4	91.6	91.7					91.7
Nomad	-	-	79.0	79.0						
II Experimental entries										
N.C. Syn. A(51)5	106.4	107.4	104.7	106.2		100.0	101.3	100.0	133.3	103.6
N.C. Syn. B(51)6	111.1	114.9	107.6	111.2		102.2	109.1	101.1	108.0	105.1
N.C. Syn. B(51)7	104.9	105.3	102.8	104.3	116.7	97.8	105.2	105.5	114.7	108.0
N.C. Syn. D(51)10	108.1	108.1	108.8	108.3		100.0	105.2	105.5	109.3	105.0
N.C. Syn. D(51)12	111.8	108.0	103.8	107.9		100.0	107.8	106.6	113.3	106.9
N.C. M.S.A. (55)	103.8	107.9	108.2	106.6			115.6	107.7		111.6
N.C. M.S.B. (55)	120.2	115.4	111.2	115.6			114.3	106.6		110.4
A-223	80.5	95.0	89.7	88.4						
A-227	89.9	109.6	104.6	101.4						
Italy (01655)	91.5	86.9	78.8	85.7						
Hairy Peruvian	88.9	99.0	69.9	85.9						
Ariz. Chilean	86.2	103.0	91.1	93.4						
Argentine	64.3	96.8	99.0	86.7						
Indian	97.4	98.4	83.1	93.0			102.6			102.6
Chilean 215	96.7	88.7	76.3	87.2			118.2			118.2

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Table 4. (continued)

Varieties	Hay yields (% checks)				Stand (% checks)[1/]					
	1956	1957	1958	3 year Ave.	Fayette-ville,Ark.	Blacks-burg,Va.	Rocky Mt.,N.C.	Salisbury N. C.	Waynes-ville,N.C.	Ave.
African	114.0	72.2	77.5	87.9			67.5			67.5
Pilea Butta	107.0	82.3	96.1	95.1			98.7			98.7
Talent	105.4	72.2	85.9	87.8			90.9			90.9
Indiana Syn. F.	-	90.3	125.4	107.8	97.9					97.9
Socheville	-	110.9	183.4	147.2	104.2					104.2
Rambler	-	78.8	70.2	74.5					52.0	52.0
Canadian Sc. MA. 531	-	83.7	79.1	81.4	81.2					81.2
New Mexico 11-1		89.0	95.1	92.0	110.4					110.4
Checks:										
Atlantic					47	91	81	90	74	
Buffalo					47	91	74	87	76	
Williamsburg					50	94	81	96	75	
Ave.					48	92	77	91	75	

[1/] Checks, average of Atlantic, Buffalo and Williamsburg. % checks used because method of taking stand scores varied with the states represented; Ark.; point quadrant method, number of hits per 100 tries: Va.; estimated % stand: N.C.; number of 4 inch squares containing a plant in 12 square feet.

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Table 5. Miscellaneous alfalfa scores from 5 of the 10 locations in the Southeastern Cooperative Variety Trials Test.

Varieties	Disease incidence at Blacksburg, Va.[1/]						Lodging[2/]		Fayetteville, Ark.		Spring vigor[5/]
	So. Anthracnose	Black stem	Yellow blotch	Pseudopeziza	Stemphylium	Cercospora	Waynesville, N. C.	Rocky Mount N.C.	Recovery after cutting[3/]	mildew[4/]	
I. Standard varieties											
Du Puits	5.75	2.0	1.0	1.2	1.3	1.2	1.0	2.3	2.3	3.0	3.2
Narragansett	3.00	1.2	1.0	1.0	1.1	1.0	2.8	4.0			4.2
Atlantic	1.25	2.0	1.5	1.2	1.4	1.0	2.0	3.8	5.0	5.0	3.8
Vernal	1.50	1.0	1.0	1.0	1.0	1.0	2.8	3.3	6.0	4.0	5.6
Williamsburg	1.00	2.7	2.7	2.2	1.9	1.2	2.0	3.8	5.0	5.0	3.4
Buffalo	1.50	2.7	2.0	2.2	1.7	1.2	1.8	2.5	5.0	5.0	4.1
Caliverde								2.0	4.3	5.8	5.1
Lahontan									3.3	5.0	5.0
II. Experimental entries											
N.C. Syn. A(51)5	1.25	4.2	2.0	3.0	1.8	1.2	3.0	3.8			2.5
N.C. Syn. B(51)6	1.50	3.2	1.7	2.2	1.8	1.2	2.5	4.3			2.0
N.C. Syn. B(51)7	1.50	3.7	2.5	2.0	1.5	1.0	2.8	4.5	4.0	4.5	2.6
N.C. Syn. D(51)10	1.50	2.2	1.2	2.0	1.6	1.2	1.8	3.5			2.5
N.C. Syn. D(51)12	1.00	2.7	2.0	2.2	1.5	1.2	2.5	4.5			2.2
N.C. M.S.A. (55)								5.0			2.0
N.C. M.S.B. (55)								4.0			2.2
Indiana Syn. F.									6.0	3.3	5.5
Indian								1.8			5.8
Chilean 215								3.3			4.0
African								1.3			7.6
Pilca Butta								2.3			6.3
Talent								3.0			4.3
Rambler							3.8				7.4
Canadian Sc. MA. 531									8.0	4.0	8.0
New Mexico 11-1									5.0	5.3	5.0
Socheville									2.8	3.0	3.0

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Table 5. (continued)

1/ All disease scores based on 0-9 (0 = no disease; 9 = severe)

2/ Scores 1-5; 1 = least lodging

3/ Scores 1-9; 1 = most rapid recovery

4/ Scores 1-9; 1 = least infection

5/ Scores 1-9; 1 = best. Data from Rocky Mount, Salisbury, Waynesville, N. C. and Fayetteville, Ark. All scores adjusted to a 1-9 basis, and averaged.

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Table 6. Fertilizer applications and other information pertaining to tests reported in tables 1 and 2.

	Waynesville, N.C.	Rocky Mt.N.C.	Salisbury N.C.	Athens Ga.	Wooford Co.,Ky.	Princeton Co.,Ky.	Blount Co.,Tenn.	Fayetteville,Ark	Osceola Ark.	Blacksburg,Va.
Soil type	Hiwasee clay loam	Norfolk "family"	Davidson clay loam	Cecil sandy clay loam	Loam	Clay loam	Alcoa silt loam	Newtonia silt loam	Sharkey clay loam	Groseclose silt loam
Fertilization at seeding (lbs./A)										2 T lime
Lime	3000	4000	3000	4000	None	4000	None	4000	None	1000 lbs.
Fertilizer	800 (2-12-12)	1000 (2-12-12)	800 (2-12-12)	1000 (0-10-20)	None	550 (3-10-10)	800 (4-12-4)	40(N), 80 (P_2O_5), 80(K_2O)	None	0-10-20 + Boron
(Boron in all fert.)	500(P_2O_5)									
Annual fert. (lbs./A) (Boron in all fert.)	700 (0-9-27)	800 (0-9-27)	800 (0-9-27)	1000 (0-10-20)	400 (0-10-20)	400 (0-10-20)	250 (0-20-20)	50(P_2O_5), 100(K_2O)	None	800 lbs. 0-10-20 + Boron
Design of Exp.	Rand. block	Rand. block	Rand. block	Rand. block	Rand. block	Rand. block	Rand. block	Rand. block	Rand. block	Rand. block
No. of replications	4	4	4	4	4	4	4	4	4	4
Seeding date	4/9/56	9/16/55	8/24/55	10/3/55	4/5/56	3/24/56	8/24/56	9/20/56	9/5/55	1955
Seeding rate(lbs/A	23	23	23	23-25	12	12	25	20	20	20
Size of plots (ft.)	5 x 20	5 x 20	5 x 20	5 x 20	5 x 25	5 x 25	5 x 20	5 x 20	5 x 25	5 x 20

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Table 7. Osceola Commercial Alfalfa Variety Test #2-1958

Location: Alfalfa Substation - Osceola, Arkansas
Design: Randomized block; 4 replications
Established: September 5, 1955 on Sharkey Silty Clay Loam

Plot size: 4½ ft. x 30 ft.
Seeding rate: 20 lbs. of live pure seed per acre
Harvested: 4 times (May 7, June 11, July 22, August 26, 1958)

Variety	Hay yields in tons per acre (12% moisture) 1st cut	2nd cut	3rd cut	4th cut	Total 1958	Total 1957	Total 1956	3-yr. ave.	Rank
Williamsburg	1.03	.60	.95	.33	2.91	6.63	5.82	5.12	7
Lahontan	1.29	.75	1.14	.44	3.62	5.99	5.25	4.95	10
Buffalo	1.02	.58	1.15	.44	3.19	5.90	5.82	4.97	9
Caliverde	1.01	.58	1.07	.46	3.12	6.36	4.89	4.79	13
Atlantic	1.07	.56	.99	.35	2.97	6.35	5.50	4.94	11
Vernal	1.11	.45	1.02	.31	2.89	6.14	5.25	4.76	14
Du Puits 1/	.70	.42	.60	.13	1.84	5.25	5.61	4.23	21
N. C. Syn. D(51)10	1.33	.65	1.21	.57	3.76	6.61	6.23	5.53	1
N. C. Syn. B(51)7	1.40	.51	1.19	.46	3.56	6.99	5.39	5.31	3
N. C. Syn. D(51)12	1.21	.60	1.06	.45	3.32	6.72	6.30	5.45	2
Ranger	1.09	.47	.88	.26	2.70	6.03	5.69	4.81	12
N. C. Syn. A(51)5	1.32	.65	1.20	.43	3.60	6.93	5.36	5.30	4
Kansas Common	1.09	.55	1.10	.43	3.17	6.43	5.87	5.16	6
Italy 01655	.93	.51	.73	.21	2.38	5.47	5.25	4.37	18
A-223	1.07	.41	.95	.28	2.71	5.98	4.59	4.43	17
A-227	1.17	.53	1.03	.43	3.16	6.90	5.13	5.06	8
Argentine	1.12	.60	.96	.31	2.99	6.09	3.67	4.25	20
Ariz. Chilean 2/	1.01	.46	.99	.29	2.75	6.48	4.92	4.72	15
Oklahoma Common	1.32	.50	1.08	.38	3.28	6.49	5.78	5.18	5
Narragansett	.88	.40	.84	.18	2.30	6.08	4.70	4.36	19
Du Puits 3/	.85	.43	.74	.17	2.19	5.20	4.37	3.92	22
Hairy Peruvian	.95	.23	.63	.30	2.11	6.23	5.07	4.47	16
L. S. D. at .05 level	.23T	N.S.	.24T	.14T	.57T	.64T	.70T		
L. S. D. at .01 level	.31T	N.S.	.31T	.18T	.77T	.85T	.90T		
C. V.	15.1%	36.6%	17.0%	27.6%	13.8%	7.2%			

1/ Seed produced in California
2/ Seed produced in Chicot County, Arkansas
3/ Seed produced in France

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Table 8. Alfalfa Synthetic Variety Yield Test-1958

Location: Block 37, Agronomy Farm, Fayetteville, Arkansas
Design: Randomized block; 4 replications
Established: September 20, 1956 on Newtonia Silt Loam
Soil Treatment: 40-80-80 fertilizer and 2 tons lime per acre at time of seeding. Topdressed with 25-50-100 fertilizer per acre on February 28, 1957, and 0-30-60 fertilizer on March 21, 1958.
Plot Size: 5 feet by 20 feet.
Seeding Rate: 20 pounds of live pure seed per acre.
Harvested: 4 times (May 14, June 18, July 25, August 28, 1958).

Variety	Hay yield in tons per acre (12% moisture)						Stand 1/	Per Cent Leaves 2/		Spring Vigor 3/	Fall Vigor 4/	Recovery after cutting 5/	Mildew 6/
	1st cut	2nd cut	3rd cut	4th cut	Total 1958	2 yr. Av. (57-58)		1958	2 yr. Av. (57-58)				
A-225 Syn. 4	1.44	.83	1.40	1.27	4.94	3.61	42	50.0	56.0	5.0	6.0	6.0	4.8
Indiana Syn. F, FC 331881	1.61	.91	1.53	1.20	5.25	3.97	42	49.1	55.2	5.8	5.8	5.8	3.0
Vernal F. C. 31983	1.66	.99	1.59	1.25	5.49	3.98	47	47.2	55.8	6.0	6.0	6.0	4.0
A-253 Syn. 1	1.55	.93	1.52	1.22	5.22	3.71	54	49.9	55.9	5.5	5.8	6.0	4.3
Buffalo F. C. 32984	1.32	1.00	1.51	1.46	5.29	3.78	49	44.9	53.7	5.0	5.5	5.5	5.0
A-224 Syn. 3	1.37	.82	1.42	1.18	4.79	3.51	40	48.5	55.4	7.0	5.8	6.0	4.8
A-248 (Grandfield)	1.50	1.07	1.52	1.35	5.44	3.80	51	46.1	53.8	5.0	6.0	6.0	4.8
A-204 Syn.4	1.65	.99	1.50	1.23	5.37	3.86	47	50.0	56.4	5.0	6.0	6.0	3.8
A-223 F. C. 24993	1.62	1.00	1.42	1.29	5.33	3.68	42	51.7	57.5	4.5	5.8	5.3	4.3
Ranger	1.36	.99	1.37	1.21	4.93	3.44	46	46.1	54.5	5.0	6.0	5.5	5.0
LSD at .05 Level	.25	.15	.12	.15	.43			3.2					
C. V.	11.4%	10.7%	5.5%	7.9%	5.8%			4.6%					

1/ Stand counts were made by the point quadrat method on May 28, 1958. One hundred points were counted per 5' X 20' plot, 14 days after first cutting was made. Stand based on number of hits per 100 points.
2/ Percent leaves based on samples of 40 stems per plot. (June 17, 1958)
3/ Spring vigor based on scale of 1 to 9; 1=high vigor, 9 =low vigor. Rated on April 15, 1958.
4/ Fall vigor based on scale of 1 to 9; 1=high vigor, 9=low vigor. Rated on September 22, 1958.
5/ Recovery after cutting based on scale of 1 to 9; 1=most rapid recovery; 9=least rapid recovery. Rated on May 29, 1958, 15 days after first cutting.
6/ Mildew ratings based on scale of 1 to 9; 1=mild inf.,9=severe inf. Rated May 6, '58 by H. J. Walters, Dept. Plant Path.

Table 9. Alfalfa Variety Yield Test - 1958

Location: Block 37, Agronomy Farm, Fayetteville, Arkansas
Design: Randomized block; 4 replications
Established: September 20, 1956 on Newtonia Silt Loam
Soil Treatment: 40-80-80 fertilizer and 2 tons of lime per acre at time of seeding. Top-dressed with 25-50-100 fertilizer per acre on February 28, 1957, and 0-30-60 fertilizer per acre on March 21, 1958.
Plot Size: 5 feet by 20 feet
Seeding Rate: 20 pounds of live pure seed per acre.
Harvested: 4 times (May 13, June 18, July 24, August 28, 1958)

Variety	Hay Yield in tons per acre (12% moisture)						Stand 1/	Per Cent Leaves 2/		Spring Vigor 3/	Fall Vigor 4/	Recovery after cutting 5/	Mildew 6/
	1st cut	2nd cut	3rd cut	4th cut	Total 1958	2 yr. Ave. (57-58)		1958	2 yr. Ave.				
DuPuits F.C. 24697	1.60	1.12	1.58	1.00	5.30	3.65	42	44.7	53.4	3.3	4.3	2.3	3.0
Canadian Sc. Ma. 531	1.49	.74	1.28	.76	4.27	3.15	39	53.0	60.5	8.0	8.0	8.0	4.0
Lahontan F.C. 33037	1.23	.89	1.17	.77	4.06	2.97	44	48.4	55.4	5.0	4.0	3.3	5.0
Indiana Syn. F"F.C. 33188	1.59	1.01	1.37	.81	4.78	3.37	47	50.2	57.1	5.5	6.0	6.0	3.3
New Mexico 11-1 F.C. 33209	1.33	1.09	1.62	1.11	5.15	3.66	53	44.9	51.6	5.0	4.3	5.0	5.3
Buffalo F.C. 32984	1.41	1.16	1.69	1.16	5.42	3.85	47	46.0	53.7	4.8	5.0	5.0	5.0
Socheville P.I. 224623	1.46	1.26	1.59	1.23	5.54	4.12	50	44.4	52.1	3.0	4.0	2.8	3.0
N.C. Syn.B(51)7 F.C. 32644	1.61	1.16	1.57	1.12	5.46	3.93	56	48.1	53.7	4.0	5.0	4.0	4.5
Williamsburg F.C. 33204	1.38	1.15	1.60	1.27	5.40	4.02	50	44.8	50.7	4.5	4.5	5.0	5.0
Caliverde F.C. 32594	1.17	.95	1.34	.88	4.34	2.92	34	44.0	52.8	5.3	4.0	4.3	5.8
Vernal F.C. 31983	1.67	1.15	1.79	1.17	5.78	4.21	47	50.0	57.9	6.0	6.0	6.0	4.0
Atlantic F.C. 33492	1.50	1.32	1.48	1.09	5.39	3.88	47	46.4	52.5	4.8	5.5	5.0	5.0
LSD at .05 level	.28	.27	.22	.26	.61			3.6					
C. V.	13.7%	17.0%	10.2%	17.5%	8.6%			5.3%					

1/ Stand counts were made by the point quadrat method on May 28, 1958. One hundred points were counted per 5' X 20' plot, 15 days after first cutting was made. Stand based on number of hits per 100 points.
2/ Percent leaves based on samples of 40 stems per plot (June 17, 1958).
3/ Spring vigor based on scale of 1 to 9; 1 = high vigor, 9 = low vigor. Rated on April 11, 1958.
4/ Fall vigor based on scale of 1 to 9: 1 = high vigor, 9 = low vigor. Rated on September 22, 1958.
5/ Recovery after cutting based on scale of 1 to 9; 1 = most rapid recovery, 9 = least rapid recovery. Rated on May 29, 1958, 16 days after first cutting.
6/ Mildew ratings based on scale of 1 to 9; 1 = mild infection. 9 = severe infection. Rated on May 6, 1958 by H. C. Walters, Department of Plant Pathology.

ARKANSAS - Fayetteville
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CONNECTICUT - Storrs

Table 10. Alfalfa Variety Test - Seeded August 1951 (Data are averages of quadruplicated plots).

Variety	Stands		Total Dry Matter* (cwts. per acre)		
	1957	1958	1957	1958	Average 7 Years
Buffalo	18	23	27	48	49
Ranger	25	46	40	58	55
Narragansett	6	9	21	32	47
Atlantic	8	9	27	38	49
O7E-C223	30	46	46	69	67
O7E-C199	43	63	50	63	62
O7E-C197	33	56	48	64	57
O7E-C195	36	61	49	66	63
O7E-C191	56	70	60	76	64
O7E-C190	44	65	54	71	65
O7E-C188	54	69	58	75	66
O7E-C187	45	65	48	73	63
O7E-C184	33	62	53	67	59
O7E-C183	35	60	50	69	65
O7E-C180	18	27	38	47	50
O7E-C144	29	48	44	65	61
O7E-C130	54	67	59	76	69
O7E-C79	48	54	56	65	62
O7E-C57	53	61	56	68	65
O7E-C54	36	57	54	63	62
Chilean (Arizona) - 23669	3	7	46	30	44
Buffalo - 24190	24	44	57	59	57
Du Puits - 24105	0	1	46	26	43
Common (Kansas) - 24072	8	11	52	31	49
Nomad - 24044	8	12	52	42	51
Ranger - 24189	26	42	39	60	53
Talent - 24026	4	5	20	24	39
Williamsburg - 24152	7	8	30	30	50
Variegated (commercial)	1	4	21	25	42
Grimm (commercial)	1	3	24	27	42

* Includes volunteer grasses and weeds

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FLORIDA - Gainesville

Table 11. Alfalfa Yields in Pounds Dry Matter 1958

Variety		Cut 1 Rep.1	Cut 1 Rep.2	Cut 2 Rep.1	Cut 2 Rep.2	Cut 3 Rep.1	Cut 3 Rep.2	Lbs/A Total
African	33602	16.10	16.30	12.50	14.20	14.50	13.60	11,240
Hairy Peruvian	33601	13.50	17.20	9.90	12.90	8.30	9.50	7,120
Caliverde	32594	16.20	19.10	9.80	14.00	9.10	9.60	7,480
Pilca Butta	24891	18.90	18.00	13.80	12.60	9.30	7.90	6,880
Indian	33500	16.20	16.30	16.00	13.80	16.80	12.90	11,880
Arizona Chilean	33599	19.70	17.00	15.50	11.30	12.00	7.00	7,600
Lahontan	33718	10.10	9.70	9.40	9.00	8.70	7.90	6,640
Nevada Syn M	33781	---	---	---	---	---	---	

Yields are given in pounds dry weight per plot and total average dry weight per acre. Only three cuttings and two replications were in this trial. Two more replications were planted on another area;however,due to flooding no yields were recorded. Extreme cold in December, January and February of 1958 seriously damaged all alfalfa and probably reduced the number of cuttings by at least two.

Plots were 7 x 15 feet in size in randomized blocks, fertilized with 1,000 lbs. 0-12-12 plus 20 lbs. of borax per acre 9-26-57 and seeded at 20 lbs. per acre the same day, broadcast and cultipacked into the soil. As you will note, two other replicates were flooded out.

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GEORGIA - Blairsville

Table 12. Summary of Alfalfa Variety Test, 1956-1957-1958

Variety	Yield in pounds of air dry forage 1956	1957	1958	Average
1. F.C. 32594 Caliverde	3053	3803	5203	4016
2. F.C. 32642 N.C. Syn. A(51)5	4990	5188	6234	5465
3. F.C. 24645 Narragansett	5323	4918	5328	5184
4. F.C. 32645 N.C. Syn. D(51)10	5282	4573	5662	5167
5. F.C. 32567 Oklahoma Common	4938	5031	5516	5157
6. F.C. 36644 Syn. B(51)7	5406	5376	5651	5472
7. F.C. 32570 Lahontan	3182	3136	4873	3727
8. F.C. 24802 Ranger	3980	3938	5547	4484
9. F.C. 24697 Du Puits	5646	5927	5870	5809
10. F.C. 32646 N.C. Syn. D(51)12	4543	4594	5381	4834
11. F.C. 31983 Vernal	4584	4344	5339	4751
12. F.C. 32643 N.C. Syn. B(51)6	5376	5094	6171	5541
13. F.C. 24803 Williamsburg	5230	4833	4715	4921
14. F.C. 24804 Atlantic	4938	4688	5547	5053
15. F.C. 32123 African*	604	--	--	--
16. F.C. 32569 Buffalo	4824	3927	4870	4536
L.S.D. (5 percent)	740	925	N. S.	
L.S.D. (1 percent)	1000	1250	N. S.	
C.V. (percent)	17.21	12.40	16.4	

Seeding rate = 30 lbs./A
Experimental design = randomized block, 3 replications
Method seeding = broadcast

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GEORGIA - Experiment

Table 13.
Alfalfa Variety Trial, 1957-1958. Seeded Oct. 16, 1956. Randomized block, 4 Replications, Plots - 3' x 20', 6 drill rows. Whole plot harvested.

FC Number	Variety	Yield -- Tons Dry Matter/Acre 1957	1958	Average
FC 32173	African	3.08	1.50	2.29
33492	Atlantic	2.96	1.89	2.42
32984	Buffalo	3.36	1.97	2.66
32594	Caliverde	3.59	1.94	2.76
24821	Chilean	2.60	1.84	2.22
24697	du Puits	4.76	2.76	3.76
32174	Indian	3.70	1.44	2.57
23143	Kansas common	2.68	2.17	2.42
33087	Lahontan	3.21	1.87	2.54
32768	Narragansett	3.85	2.44	3.15
33209	New Mexico 11-1	3.68	2.35	3.01
32567	Oklahoma common	3.72	2.18	2.95
33347	Ranger	3.62	1.99	2.80
33346	Rhizoma	3.11	1.99	2.55
22463	Socheville	4.21	2.58	3.39
32139	Talent	3.23	1.99	2.61
31983	Vernal	3.97	1.94	2.95
33204	Williamsburg	3.40	1.86	2.63
	L.S.D. 5%	.41	.25	

Notes: Stand of African and Indian reduced (1958) on account of winter-killing, and Lahontan by diseases.

Dates Harvested: 1957 - April 3, (discarded on account of weeds), May 20, July 10, and August 22. 1958 - May 15 (discarded), June 24, July 24 and August 29. Yields above are for 3 harvests each year.

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KENTUCKY - Lexington

Table 14. Alfalfa Variety Trial 1958. Planted February 19, 1954. Randomized Block Design. Four replications. Plots 5' x 25'.

Variety	Yield -- Tons dry matter/Acre					
	1955 3 cuts	1956 3 cuts	1957 4 cuts	1958 4 cuts	Total 4 Years	Yearly Ave.
Orestan	2.57	4.52	3.99	3.30	14.38	3.60
Pilca Butta	1.12	3.32	3.35	2.52	10.31	2.58
Vernal	3.52	4.61	4.29	3.78	16.20	4.05
Atlantic	3.38	4.98	4.25	3.98	16.59	4.15
Narragansett	3.66	4.76	4.59	3.99	17.00	4.25
Buffalo	3.39	4.73	4.62	4.56	17.30	4.32
Nomad	0.98	2.89	2.29	1.37	7.53	1.88
Caliverde	1.49	3.09	3.07	2.04	9.69	2.42
Du Puits	3.61	5.15	5.12	4.52	18.40	4.60
Ranger	3.09	4.70	4.31	4.24	16.34	4.08
Williamsburg	3.20	4.71	4.68	3.92	16.51	4.13
Talent	1.63	3.84	3.53	3.53	12.54	3.14
Rhizoma	3.03	4.42	4.04	3.14	14.63	3.66
Flamande-Socheville	3.08	4.63	4.55	4.28	16.54	4.14
Sevelra	2.12	4.56	3.37	2.55	12.60	3.15
Okla. Common	3.06	4.87	4.60	4.11	16.64	4.16
Ferax	2.93	4.42	3.88	2.62	13.85	3.46
Calif. Common	0.73	3.18	2.58	1.41	7.90	1.98
Nemastan	1.20	3.31	3.20	3.94	11.65	2.91
Kan. Common	2.49	4.50	4.36	3.48	14.83	3.71
L.S.D. .05	0.71	0.98	0.61	0.69	2.21	0.55
.01	0.95	1.30	0.81	0.92	2.94	0.73

Table 15. Alfalfa Variety Trial, 1958. Planted Fall of 1955. Randomized Block Design. Four Replications. Plots 5' x 25'.

Variety	Yield - - Tons Dry Matter/Acre								
	Campbellsville				Princeton				Yearly Average
	1956	1957	1958	Average 3 Years	1956	1957	1958	Average 3 Years	2 Locs.
Buffalo	2.79	3.60	3.90	3.43	2.79	4.21	3.94	3.65	3.54
Atlantic	3.30	3.31	3.46	3.36	2.89	4.19	4.14	3.74	3.55
Rhizoma	2.93	3.47	3.77	3.39	2.93	3.47	3.45	3.28	3.34
Narragansett	3.04	3.27	3.96	3.42	2.76	3.95	3.74	3.49	3.46
Williamsburg	2.99	3.50	3.85	3.45	2.63	4.40	3.91	3.65	3.55
Du Puits	3.48	3.58	4.34	3.80	3.22	4.35	4.10	3.89	3.84
Vernal	3.45	4.02	4.08	3.85	2.95	3.87	3.82	3.55	3.70
Okla. Common	3.36	3.79	4.28	3.85	2.99	4.20	3.95	3.71	3.78
Ranger	3.13	3.47	3.75	3.45	2.36	3.63	3.61	3.20	3.32
L.S.D. .05	N.S.	N.S.	N.S.	N.S.	N.S.	0.39	0.35	0.27	0.21
.01	N.S.	N.S.	N.S.	N.S.	N.S.	0.54	0.48	0.36	0.28

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KENTUCKY - LaGrange

Table 16. Alfalfa Variety Trial, 1958. Planted April 23, 1953. Randomized Block Design. Four replications. Plots 10' x 25'.

Variety	Yield — Tons dry matter/Acre						
	1954 4 cuts	1955 3 cuts	1956 3 cuts	1957 3 cuts	1958 3 cuts	Total 5 Years	Yearly Average
Ranger	2.91	3.70	4.13	3.22	2.54	16.50	3.30
Buffalo	2.68	3.79	4.06	2.94	2.77	16.24	3.25
Atlantic	2.90	3.75	3.98	2.86	2.35	15.84	3.17
Williamsburg	2.97	3.96	3.97	3.18	2.68	16.76	3.35
Kan. Common	2.80	3.83	4.16	3.09	2.78	16.66	3.33
Narragansett	3.15	3.91	4.05	3.11	2.33	16.55	3.31
Rhizoma	2.84	3.67	4.03	3.04	2.25	15.83	3.17
Du Puits	3.39	3.97	4.40	3.21	2.70	17.67	3.53
Nomad	2.42	3.53	3.85	2.13	1.69	13.62	2.72
Okla. Common	2.86	3.88	4.07	2.98	2.62	16.41	3.28
L.S.D. .05	0.33	N.S.	0.60	0.28	0.85	0.81	0.15
.01	0.45	N.S.	0.80	0.38	N.S.	1.09	0.22

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KENTUCKY - Woodford County and Princeton

Table 17. Alfalfa Variety Trial, 1958. Planted in Spring of 1956. Randomized Block Design. Four Replications. Plots 5' x 25'.

Variety	Yield - - Tons Dry Matter/Acre						
	Woodford			Princeton			Yearly Average 2 locations
	1957 3 cuts	1958 4 cuts	Ave. 2-Years	1957 3 cuts	1958 3 cuts	Ave. 2-Years	
N.C. Syn.A(51)5	3.23	4.70	3.96	4.02	4.06	4.04	4.00
Narragansett	3.07	4.59	3.83	4.48	4.04	4.26	4.04
N.C. Syn.B(51)7	2.95	4.91	3.93	4.20	3.96	4.08	4.00
N.C. Syn.D(51)10	2.98	4.98	3.98	4.39	4.04	4.22	4.10
Williamsburg	2.75	4.97	3.86	4.07	4.12	4.10	3.98
N.C. Syn.B(51)6	3.07	4.87	3.97	4.73	3.99	4.36	4.16
Buffalo	2.77	4.61	3.69	4.19	3.99	4.09	3.89
N.C.Syn.D(51)12	3.08	4.86	3.97	4.19	3.84	4.01	3.99
Vernal	3.11	4.47	3.79	4.02	4.06	4.04	3.92
Du Puits	3.32	4.80	4.06	4.35	3.94	4.14	4.10
Atlantic	3.11	4.64	3.88	4.12	3.93	4.02	3.95
L.S.D. .05	.31	.33	N.S.	N.S.	N.S.	N.S.	N.S.
.01	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.

Table 18. Summary of Alfalfa Variety Tests

Variety	Av. Initial Stand 1/27/58	First Cutting 4/30/58 Average Maturity	First Cutting 4/30/58 Hay per Acre	Second Cutting 6/9/58 Average Maturity	Second Cutting 6/9/58 Hay per Acre	Third Cutting 7/3/58 Average Maturity	Third Cutting 7/3/58 Hay per Acre	Total Yield for Year
Buffalo	65 %	2	2110	4	1602	1	667	4379
Lahontan	70 %	2	2562	2	914	1	377	3853
Indian	55 %	3	2283	5	1326	2	776	4385
African	75 %	3	2769	5	1532	2	844	5145
Atlantic	40 %	2	1671	4	825	1	495	2991
Narragansett	30 %	2	959	4	614	1	294	1867
Hairy Peruvian	60 %	3	2521	4	1452	1	850	4823
Caliverde	70 %	3	3618	4	2364	1	832	6814
Williamsburg	80 %	2	3307	4	2063	1	850	6220
New Mexico 11-1	65 %	2	2556	4	1435	1	556	4547
Arizona Chilean	60 %	2	2907	4	2159	1	762	5828
Calif. Common	70 %	1	2813	4	1904	1	666	5383
Oklahoma Common	60 %	2	2485	4	1556	1	738	4779
Pilca Butta	50 %	2	2007	4	1755	1	552	4314
Socheville	40 %	2	1431	5	1359	2	581	3371
Talent	65 %	1	2396	4	1732	2	729	4857
Uruguay Clone 10	56 %	1	1702	2	1132	1	451	3285

Supplemental Information

Size of Plots Seeded - 7' x 14'
Size of Plots Harvested - 3-1/2' x 14'
No. of Replications - 4 Date Planted - November 5, 1957
Experimental Design - Randomized complete block
Soil Type and Texture - Briensburg silt loan
600 lbs. of 0-14-14 fertilizer applied per acre before planting. One ton of dolomitic lime applied per acre before planting. 120 lbs. of K_2O applied per acre as a top dressing in two applications.

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MARYLAND - College Park

Table 19. Hay Yields (tons/acre at 12% moisture) of Alfalfa Varieties Tested in Eastern Regional Alfalfa Test, 1954-58. RCB Design, 6 Replications, Seeded August 19, 1953. Three Cuttings per Year.

Variety	Yield: 1954	1955	1956	1957	1958	Mean of 5 years
1. Du Puits	3.51	3.87	4.06	3.16	6.14	4.15
2. Socheville	3.39	4.05	4.27	3.41	5.26	4.07
3. Narragansett	3.55	3.75	3.97	3.24	5.24	3.95
4. Atlantic	3.40	3.96	3.65	2.79	5.83	3.92
5. Vernal	3.36	3.58	3.47	2.85	6.08	3.87
6. Rhizoma	3.27	3.70	3.66	2.83	5.89	3.87
7. Grimm	3.13	3.68	3.66	3.07	5.76	3.86
8. Williamsburg	3.01	3.99	3.86	2.95	5.41	3.84
9. A-225	3.24	3.71	3.76	2.98	5.28	3.80
10. Ranger	3.22	3.60	3.35	2.74	5.56	3.69
11. Buffalo	2.98	3.46	3.67	2.88	5.34	3.66
12. Sevelra	2.86	3.74	3.39	2.98	5.33	3.66
13. A-224	2.95	3.45	3.41	2.87	5.17	3.57
14. Talent	2.94	3.23	3.33	2.58	5.15	3.45
15. Nomad	2.79	3.35	2.94	2.58	4.85	3.30
MEAN	3.17	3.67	3.63	2.93	5.49	3.78
L.S.D. .05	0.44	0.36	0.33	0.38	0.35	0.25
C.V.	12.1%	8.4%	7.8%	11.2%	12.9%	9.0%

Plot size - 4-1/2' x 20', broadcast
Rate of seeding - 80 grams per sq. ft.

Table 20. 1955 Alfalfa Strain Test. Summary of Yields in Pounds Dry Matter per Acre, by Harvest

Date of Seeding: April 15, 1955 Seeding Rate: 12 lbs./A
Soil Type: Wethersfield loan
Experimental Design: Randomized Complete Block
Replications: 5 Plot Size: 5' x 16'
Area Harvested for Yields: 3-1/6' x 4'
Av. Annual Maintenance Fertilizers: 680#/A 0-15-30

	1956				1957				1958				3-Year
Variety	6/15	7/20* 8/1	9/5	Season Total	6/4	7/10* 7/15	8/19* 8/26	Season Total	6/18* 6/25	7/18* 7/24	9/10	Season Total	Annual Average
Du Puits	4943	2394	947	8284	5248	1721	1685	8654	6424	2784	2430	11638	9525
Socheville	4999	2410	886	8295	5048	1708	1705	8460	7007	2925	2849	12781	9845
Vernal	5225	3696	826	9747	4533	1818	1246	7597	6430	2687	2600	11717	9687
Rhizoma	5100	3673	771	9544	4340	2083	1076	7500	6351	2668	2717	11736	9593
Nomad	4657	2551	446	7654	3565	1032	692	5290	6376	1815	2004	10195	7713
Lahontan	4486	3260	931	8677	3995	1744	1198	6937	5235	2677	2347	10259	8624
Vernal + Chilean (4:1)	4957	3257	870	9084	4612	1768	1122	7502	6867	2595	2572	12035	9540
Viking + Mansfield Trefoil (1:1)	4466	1800	253	6519	2867	449	338	3655	5219	1288	1270	7777	5984
LSD .05	432	361	181	670	626	387	161	854	1152	382	380	1540	
C.V. %	6.9	9.7	18.1	6.1	11.1	19.4	11.0	9.5	14.3	12.1	12.4	10.8	

* Du Puits and Socheville harvested at earlier date, the remaining varieties and mixtures at the second (comparable maturity) date.

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Table 21. 1955 Alfalfa Strain and Mixture Test. Summary of Yields in Pounds Oven-Dry Matter per Acre, by Harvest.

Date of Seeding: August 30, 1955 | Seeding Rate: 10#/A
Soil Type: Wethersfield loan | Experimental Design: Randomized Complete Block
Replications : 5 | Plot Size: 5' x 16'
Av. Annual Maintenance Fertilizers: 715#/A 0-15-30 | Area Harvested for Yield: 3-1/6' x 4'

Strain or Mixture*	1956	1957				1958				1957-58 Av. Annual Yield
		5/31#	7/10#	8/19#	Season	6/17#	7/18#	9/11	Season	
	8/15	6/3	7/15	9/4	Total	6/25	7/25		Total	
Buffalo	2751	4671	1933	1174	7678	6811	3323	3005	13139	10408
Narragansett	3285	5208	2015	1211	8434	7278	3018	3247	13543	10988
Vernal	2707	5340	2077	1043	8460	7567	3057	2866	13490	10975
Ranger	2295	4333	1927	935	7195	6808	2942	2736	12486	9840
Rhizoma	2596	5008	1856	857	7722	6987	3261	2813	13060	10391
Du Puits	2318	5108	1667	1398	8173	6948	3112	3196	13256	10714
Socheville	2301	5550	1684	1501	8735	6787	2927	2827	12541	10638
Viking trefoil	1060	2949	456	292	3696	4378	1023	572	5974	4835
Vernal + Du Puits	2689	5316	1526	1349	9191	7231	2909	2886	13025	11108
Vernal + Narragansett	2795	5043	1855	970	7868	7532	3259	2952	13743	10805
Vernal + Chilean	2421	5432	1738	993	8163	7729	2959	2880	13567	10865
Vernal + Medium Red Clover	2999	4966	1559	920	7445	7117	2875	2715	12707	10076
Vernal + Pennscott Red Clover	2789	5298	1908	1044	8249	7405	2960	2692	13057	10653
Vernal + Kenland Red Clover	3179	5090	1817	1015	7922	7040	2840	2967	12847	10384
Vernal + Viking trefoil	2395	5119	1821	912	7852	7285	3045	2861	13192	10522
Ranger + Pennscott Red Clover	3146	4627	1942	929	7498	6700	2758	2684	12142	9820
Ranger + Kenland Red Clover	2819	4852	1571	1003	7427	6660	2811	2739	12210	9818
Atlantic	2088	4999	1567	851	7417	6663	2879	2722	12264	9840
Williamsburg	2598	5291	2230	1386	8908	7428	3376	3432	14236	11572
Lahontan	1437	3925	1912	1052	6889	5873	2855	3158	11886	9388
LSD .05	818	642	556	268	1048	1063	423	461	1353	
C.V. %	25.6	10.4	25.2	20.4	10.8	12.2	11.5	14.9	8.5	

* Mixtures seeded at ratio of 3:1 (First variety:second variety)

Du Puits, Socheville, and Vernal-Du Puits Mixture harvested at earlier date, the remaining varieties and mixtures at the second (comparable maturity) date.

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NEW YORK

Alfalfa Variety Performance - 1958

1. A number of Flemish-type varieties are being tested in comparison to Du Puits. Our observations to date on those of greatest interest are:

a. Socheville - not greatly different from Du Puits but more variable in performance in different trials. Growth is more rank, recovers a little faster and has slightly outyielded Du Puits at several sites. However, in trials where conditions are somewhat adverse from competition or drainage, it has been inferior.

b. Tourneur 501 - definitely inferior to Du Puits in performance.

c. Alfa - only 5 harvest years of information (4 trials); this is insufficient for accurate comparison. Alfa has been highest yielding to date in the 2 of the 4 trials where conditions were most optimum for production. There was no difference between Alfa and Du Puits in the other two trials. There has been no evidence to date of differences in winter hardiness. The two are being compared in a number of new trials; the current growing season should afford critical comparison.

Significant differences in performance due to seed lot variability have been observed for all of these Flemish varieties. Western-produced seed is almost essential for adequate evaluation of these strains.

2. New synthetics, New York A and B.

Evaluation of these varieties to date indicates promise. Under good conditions for growth they have done very well--being equal or a little higher in yield than Narragansett. This is significant because it is probably they may persist longer. They are very good for tolerance to leaf diseases. Their establishment ability on marginal sites has been inferior to Narragansett. High quality seed has not been available--their establishment to date may reflect this.

3. No variety has shown any consistent indication of being better than Narragansett for marginal drainage conditions. Vernal and Du Puits both occasionally establish as well or better on these soil conditions but without exception they do not persist as well as Narragansett. To the limit of available seed, Narragansett should be used for soils of moderate to marginal drainage. The Narragansett-Viking combination continues to perform extremely well.

New York (Continued)

4. Variety x Management Interactions - 1958

a. Grass competition in mixtures is definitely a factor in performance. Narragansett, Vernal and Du Puits have been found compatible with all varieties of common hay grasses except orchardgrass under most conditions. Ranger is not sufficiently competitive for aggressive strains of bromegrass. Mixtures with different orchardgrass varieties are under study--the Flemish varieties offer most promise for use with this species.

b. Narragansett performance has been best of all varieties for marginal drainage. Vernal equals production under good conditions; does less well down drainage and has shown some indications of being more affected by more intense cutting pressure.

c. Flemish-type varieties survive greater companion crop and grass competition, are nearly always freer of encroaching weeds or grass. Full production is expressed under only three or more cuts per season.

d. Grass competition and cutting pressure have been found increasingly serious on effect on stands as drainage becomes less favorable.

e. Trials which have included more than recommended levels of fertility have shown very little extra return in forage. Weed and companion crop competition were increased to the detriment of stand. Most vigorous varieties did a little better; Ranger gave less. There has been no evidence of greater persistence or tolerance to cutting pressure at higher rates.

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NEW YORK - Cayuga County-Saltonstall

Table 22. 1956-1958 Summary of Data from 1955 Alfalfa Variety and Management Trial. Broadcast Seeded May 12, 1955. Split-Split Plot Design; 2 Fertility Levels, 3 Cutting Managements and 6 Varieties. Seeding Rate: 10#/Acre.

Total Yield - Tons/Acre on Fertility A: 300# 10-20-20 at planting time; top dressed 200# 0-20-20 annually

Random Number	Variety	2 cuts/season				3 cuts/season				4 cuts/season			
		1956	1957	1958	Ave.	1956	1957	1958	Ave.	1956	1957	1958	Ave.
1	Narragansett	2.65	3.62	4.11	3.46	2.79	3.29	3.61	3.23	2.66	3.13	3.64	3.14
2	DuPuits	2.92	3.76	3.71	3.46	3.21	3.35	3.80	3.45	3.15	3.18	3.71	3.34
3	Vernal	2.76	3.81	3.76	3.44	2.94	3.09	3.63	3.22	2.83	2.94	3.58	3.11
4	Ranger	2.51	3.34	3.54	3.13	2.36	2.76	3.33	2.81	2.11	2.62	3.15	2.62
5	Socheville	2.88	3.88	3.92	3.56	2.79	3.48	3.92	3.39	2.91	3.17	3.87	3.31
6	Grimm	2.40	3.50	3.57	3.15	2.43	2.88	3.26	2.85	2.28	2.78	3.31	2.79
	Average	2.69	3.65	3.77	3.37	2.75	3.14	3.59	3.16	2.66	2.97	3.54	3.05
	L.S.D. (P = .05)	.22	.22	.50		.44	.18	.41		.26	.23	.51	
	Alfalfa Fraction on Fertility Level A												
1	Narragansett	2.37	3.22	3.32	2.97	2.58	2.98	3.05	2.87	2.37	2.86	3.00	2.74
2	DuPuits	2.74	3.50	3.32	3.19	3.00	2.93	3.18	3.04	2.94	2.94	3.07	2.98
3	Vernal	2.53	3.21	3.06	2.93	2.65	2.64	2.96	2.75	2.49	2.63	2.84	2.65
4	Ranger	2.28	2.76	2.64	2.56	1.95	2.19	2.45	2.20	1.72	2.31	1.62	1.88
5	Socheville	2.68	3.57	3.42	3.22	2.56	3.12	3.40	3.03	2.67	2.88	3.43	2.99
6	Grimm	2.18	2.89	2.63	2.57	2.01	2.36	2.53	2.30	1.93	2.44	1.90	2.09
	Average	2.47	3.18	3.08	2.91	2.46	2.67	2.92	2.70	2.35	2.68	2.60	2.56

Table 23. 1958 Summary of 1955 Alfalfa Variety and Management Trials

Total Yield - Tons per Acre on Fertility Level B: 500# 10-20-20 at planting time; top dressed 400# 0-20-20 annually

Rank No.	Variety	2 cuts/season 1956	1957	1958	Ave.	3 cuts/season 1956	1957	1958	Ave.	4 cuts/season 1956	1957	1958	Ave.	Variety performance over 3 yrs & 2 fert. levels 2 cuts	3 cuts	4 cuts
1	Narragansett	2.98	3.88	4.14	3.66	2.95	3.47	3.97	3.46	2.40	3.01	3.64	3.02	3.56	3.35	3.08
2	DuPuits	3.42	3.80	3.98	3.73	3.24	3.56	4.00	3.60	3.04	3.15	3.71	3.30	3.60	3.52	3.32
3	Vernal	3.07	3.89	3.95	3.63	3.01	3.36	3.97	3.45	2.63	2.88	3.58	3.03	3.54	3.34	3.07
4	Ranger	2.59	3.55	3.64	3.26	2.39	2.94	3.80	3.04	1.91	2.51	3.15	2.52	3.20	2.92	2.57
5	Socheville	2.88	3.96	3.93	3.59	2.85	3.52	4.30	3.56	2.44	3.04	3.87	3.12	3.76	3.48	3.22
6	Grimm	2.65	3.63	3.65	3.31	2.47	3.33	3.63	3.14	2.27	2.73	3.31	2.77	3.23	3.00	2.78
	Average	2.93	3.78	3.88	3.53	2.82	3.36	3.94	3.38	2.45	2.89	3.54	2.96	3.48	3.27	3.00
	L.S.D. (P = .05)	.29	—	.54		.25	.23	.55		.25	.23	.51				
	Alfalfa Fraction on Fertility Level B															
1	Narragansett	2.78	3.29	3.37	3.15	2.60	3.09	2.97	2.89	2.24	2.76	3.00	2.67	3.06	2.88	2.70
2	DuPuits	3.18	3.42	3.62	3.40	2.97	3.15	3.47	3.20	2.84	2.89	3.07	2.93	3.34	3.12	2.96
3	Vernal	2.81	3.31	3.30	3.14	2.68	2.84	2.89	2.80	2.44	2.61	2.84	2.63	3.04	2.78	2.64
4	Ranger	2.32	3.03	3.07	2.81	1.88	2.32	2.71	2.30	1.47	2.18	1.62	1.76	2.68	2.25	1.82
5	Socheville	2.66	3.45	3.49	3.20	2.56	3.07	3.69	3.11	2.20	2.80	3.43	2.81	3.21	3.07	2.90
6	Grimm	2.37	3.04	2.99	2.80	2.12	2.82	2.41	2.45	1.82	2.41	1.90	2.04	2.68	2.38	2.06
	Average	2.68	3.25	3.30	3.08	2.47	2.88	3.02	2.79	2.17	2.62	2.60	2.46	3.00	2.74	2.50

Notes: (1) Weed competition was a factor in establishment; high fertility aggravated problem.

(2) Drainage only moderate on area; this plus a series of late seasons was detrimental to the 3 and 4 cutting systems--stands were affected by the second year of harvest.

(3) 4 cuttings/season were so severe on stand that only 3 were taken in 1958. Comparison of 1958 yields of 3 versus 4 cut systems reflects the influence of 4 versus 3 cuts in first two hay years.

(4) Flemish varieties were best for 3-year period. Initial stands of Narragansett were not quite as good as Vernal but Narragansett was definitely better in persistence and production at the end of the 3-year period.

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Table 24. 1958 Data from 1958 Alfalfa Variety x Type of Culture Trial - McGowan Field

Planting Date: May 12, 1958 Split Plot Design-5 reps.

Random Number	Main Plot Treatment	Split Plot Treatments	Yield-Tons Per Acre(12% moisture) 7/21	8/7	10/3	Total	% Legume 7/21	8/7	10/3	Yield of Legume Fraction T/A
1	Seeded Alone	DuPuits Alf. alone	1.03		1.67	2.70	88		89	2.39
2	(no oats)	DuPuits Alf + Climax Tim.	1.10		1.67	2.77	77		81	2.20
3		DuPuits Alf + Pennlate Orch	1.13		1.79	2.92	81		48	1.77
4	Harvested	DuPuits Alf + Saratoga Brome	1.06		1.70	2.76	78		63	1.90
5	7/21	Narragansett Alf alone	.91		1.28	2.19	88		84	1.88
6		Vernal Alf Alone	.99		1.29	2.28	85		87	1.96
7	Oat	DuPuits Alf. alone		2.37	1.32	3.69		28	98	1.96
8	Companion Crop	DuPuits Alf + Climax Tim		2.40	1.33	3.73		28	100	2.00
9		DuPuits Alf + Pennlate Orch		2.38	1.25	3.63		28	85	1.73
10	Garry - Hvsted	DuPuits Alf + Saratoga Brome		2.38	1.28	3.66		27	96	1.87
11	as silage	Narragansett Alf alone		2.22	.82	3.04		24	89	1.26
12	8/7	Vernal Alf alone		2.35	.84	3.19		25	95	1.39
13	Oat	DuPuits Alf alone	1.90		1.54	3.44	16		96	1.78
14	Companion Crop	DuPuits Alf + Climax Tim.	1.91		1.47	3.38	15		97	1.71
15		DuPuits Alf + Pennlate Orch	2.08		1.72	3.80	17		60	1.39
16	Minnhafer-Hvsted	DuPuits Alf + Saratoga Brome	1.89		1.52	3.41	15		88	1.62
17	as silage	Narragansett Alf alone	2.04		1.13	3.17	12		90	1.26
18	7/21	Vernal Alf alone	1.90		1.17	3.07	14		96	1.39
19	Oat	DuPuits Alf alone			.99	.99			92	.91
20	Companion Crop	DuPuits Alf + Climax Tim.			.86	.86			77	.66
21		DuPuits Alf + Pennlate Orch			.96	.96			70	.67
22	Garry - Hvsted	DuPuits Alf + Saratoga Brome			.91	.91			73	.66
23	as grain	Narragansett Alf alone			.53	.53			53	.28
24	(about 8/20)	Vernal Alf alone			.66	.66			51	.34
25	Oat	DuPuits Alf alone			.90	.90			94	.85
26	Companion Crop	DuPuits Alf + Climax Tim.			.97	.97			86	.83
27		DuPuits Alf + Pennlate Orch			.96	.96			74	.71
28	Minnhafer-Hvsted	DuPuits Alf + Saratoga Brome			.92	.92			81	.75
29	as grain	Narragansett Alf alone			.50	.50			41	.21
30	(about 8/20)	Vernal Alf alone			.63	.63			54	.34

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Table 24. Continued

Main Plot Treatment	Split Plot Treatments	Yield-T/A (12% M) 10/3	Yield-T/A (12% M) Total	% Legume 10/3	Yield of Legume Fraction T/A
Mixtures	DuPuits Alf alone	1.28	2.34	94	1.58
Over	DuPuits Alf + Climax Tim	1.26	2.34	88	1.48
All	DuPuits Alf + Pennlate Orch	1.33	2.45	67	1.25
Culture	DuPuits Alf + Saratoga Brome	1.26	2.33	80	1.36
Treatments	Narragansett Alf Alone	.85	1.89	71	.98
	Vernal Alf Alone	.92	1.97	76	1.08
	L.S.D. (P = .05)	.08			

Total Returns - First Year of Cultured Treatments (Ave. All Mixtures)

	Tons D.M. 7/21	8/7	10/3	Total	% Legume 7/21	8/7	10/3	Total	% D.M. at Harvest 7/21	8/7	10/3
No Oats	1.04		1.57	2.61	83		75	77	20.9		24.4
Garry - Silage		2.35	1.14	3.49		27	94	48		30.7	20.9
Minnhafer Silage	1.95		1.42	3.37	15		88	31	26.1		23.3
Garry - Grain	(22 bu.)		.82	.82			69	69			19.4
Minnhafer - Grain	(9 bu.)		.81	.81			72	72			19.0

Notes: (1) Oat seeding rate was lower than desired — about 1 bushel/acre

(2) Silage cut on Garry should have been one week earlier (rain)

(3) Grain oats heavily hit with blackstem — very little straw

(4) D.M. figures excellent indicator of forage quality as judged by appearance.

(5) Fall stands were fair on all treatments; No Oats plots had better stands and much better vigor.

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Table 25. 1958 Data from 1957 Alfalfa Trial. Broadcast Seeded April 23, 1957. Randomized Block Design; 5 Replications. Planting Rate: 50 Viable Seed/Sq. Ft. Cutting Mgt: 3 Cuts/Season

Random Number	Entry	Seed Lot #	Yield - Tons per Acre 1st cut 6/27	2nd cut 8/14	Season Total	% Legume 6/27	% Legume 8/14	% Stand 9/24
1	Alfa - C.D.	57-51	3.04	.79	3.83	50%	80	78
2	Alfa - U.S.D.A	57-56	3.03	.68	3.71	or	79	77
3	Alfa - Elite	57-52	3.02	.74	3.75	less	80	79
4	DuPuits	57-53	2.99	.90	3.90		84	82
5	DuPuits	57-49	3.23	.90	4.13		83	82
6	Cardinal	57-63	3.09	.69	3.78		81	72
7	Tourneur 501	57-57	3.02	.79	3.80		77	74
8	G P R -2		3.05	.83	3.88		86	92
9	Rambler	57-55	3.05	.68	3.73		64	60
10	Lahontin	57-54	2.94	.64	3.58		68	62
11	Ranger	57-59	3.01	.84	3.85		81	77
12	Purdue F	57-62	2.97	.65	3.63		74	64
13	N.Y. "A" (A 300)	57-10	3.13	.86	3.99		80	83
14	N.Y. "B" (A 301)	57-8	2.79	.85	3.65		80	80
15	N.Y. "C" (A 302)	57-9	2.97	.76	3.73		79	74
16	N.Y. "A" (A 300)	'55 seed	3.11	.83	3.94		80	80
17	N.Y. "B" (A 301)	'55 seed	3.14	.87	4.02		77	80
18	N.Y. "C" (A 302)	'55 seed	2.96	.62	3.57		71	64
19	Vernal	33273	2.95	.76	3.71		78	76
20	Vernal	57-48	3.06	.76	3.82		75	77
21	Narragansett	57-50	3.01	.79	3.80		77	80
22	Narragansett	57-58	2.94	.80	3.74		78	80
	Average		3.02	.78	3.80	↓	78	76
	F - Varieties		.60-	1.33-	.89-			
	L.S.D. (P = .05)		.32	.21	.42			
	C.V. %		8.5	20.9	8.7			
	Ave. D.M. %		23.8	29.9				

Notes:
1. Heavy covering of quack, bluegrass, timothy and bromegrass despite fall application of Dalapon on sod prior to spring seeding.
2. Stands of alfalfa are fairly good; plants are affected by the competition which is heavy under good fertility on this soil. Dalapon application planned for spring 1959. Weather prevented 1958 application.
3. With more than 50% of mixtures grass in 1st cut, accurate comparitive notes not possible.
4. 2nd cut production and subsequent data on stand survival may be good indication of competitive ability.
5. Acute potash deficiency noted in fall growth.
6. Fall stand notes made under good conditions and should be reliable.

Table 26. 1958 Data from 1957 Alfalfa Variety Trial - Middle Ogden Field. Broadcast Seeded May 3, 1957.
Randomized block design; 5 replications; planting rate: 50 viable seed/sq. ft.; cutting management: 3 cuts/season.

Random Number	Entry	Seed Lot Number	Yield - Tons/Acre (12% M) 6/16	8/4	9/	Total	% Legume 6/16	8/4	9/	Total Yield Alf.Fraction	% D.M. 6/16
1	Scandia (Alfa)	57-51	2.69	2.07	1.00	5.76	97	100	100	5.68	17.6
2	Alfa	57-56	2.82	2.14	1.01	5.97	100	↓	↓	5.97	18.3
3	Alfa - Elite	57-52	2.64	1.91	1.00	5.55	97	↓	↓	5.47	18.0
4	DuPuits	57-53	2.68	1.89	1.06	5.63	97	↓	↓	5.55	18.1
5	DuPuits	57-49	2.83	2.14	1.12	6.09	98	↓	↓	6.03	18.4
6	Cardinal	57-63	2.44	1.75	.93	5.12	92	100	100	4.92	17.6
7	Tourneur 501	57-57	2.58	2.00	.94	5.52	97	↓	↓	5.44	17.8
8	GPR - 2	-	2.71	2.06	1.12	5.89	96	↓	↓	5.78	18.1
9	Rambler	57-55	2.21	1.33	.45	3.99	77	↓	↓	3.48	16.8
10	Lahontin	57-54	2.52	1.63	.78	4.93	86	↓	↓	4.58	17.3
11	Ranger	57-59	2.57	1.67	.83	5.06	88	100	100	4.76	17.4
12	Purdue F	57-62	2.73	1.75	.90	5.38	94	↓	↓	5.22	17.8
13	N.Y. "A"	57-10	2.94	2.02	.96	5.93	93	↓	↓	5.71	17.8
14	N.Y. "B"	57-8	2.74	2.01	.98	5.73	93	↓	↓	5.54	17.4
15	N.Y. "C"	57-9	2.93	1.87	.97	5.77	89	↓	↓	5.45	18.2
16	N.Y. "A"	1955 seed	2.83	1.81	.99	5.63	93	100	100	5.43	17.5
17	N.Y. "B"	1955 seed	2.90	1.98	1.04	5.92	94	↓	↓	5.75	18.8
18	N.Y. "C"	1955 seed	2.79	1.84	.97	5.60	91	↓	↓	5.35	17.7
19	Vernal	33273	2.80	1.82	.85	5.48	91	↓	↓	5.22	17.7
20	Vernal	57-48	2.76	1.90	.94	5.60	92	↓	↓	5.38	17.6
21	Narragansett	57-50	2.62	1.79	.95	5.37	93	100	100	5.18	17.0
22	Narragansett	57-58	2.91	1.86	.93	5.70	91	↓	↓	5.44	17.1
	Average		2.71	1.88	.94	5.53	93	100	100	5.34	17.7
	F - Var.		3.18**	8.34**	19.67**	10.37**					
	L.S.D. (P = .05)		.28	.18	.09	.40					
	C.V.		8.1	7.6	7.4	5.7					
	Average Dry Matter %		17.7	20.8	17.3						

Notes: (1) Very good test, high production - good stands.
(2) Significant differences indicated between seed lots of same variety. Quality of seed has strong influence on performance even though planting rates are adjusted on germination.

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Table 27. 1958 Data from 1956 Alfalfa Variety and Management Trial - Ketola Field.

Broadcast seeded May 8, 1956; split-plot design; 6 replications; seeding rate 10#/acre; main plots are 6 cutting treatments in 6 x 6 latin square; split plots - 6 varieties.

Cutting Treatment A: 2 cuts; 1st by June 20; last cut mid-August

Random Number	Varieties	Total Yield - Tons/Acre 7/2	8/20	Total	% Legume 7/2	8/29	Legume Fraction
1	Vernal	2.88	1.48	4.35	86	92	3.84
2	Narragansett	2.94	1.63	4.57	94	96	4.33
3	Ranger	2.84	1.46	4.30	75	81	3.31
4	Atlantic	2.94	1.53	4.47	93	95	4.19
5	DuPuits	2.80	1.70	4.50	95	96	4.29
6	Cardinal	2.80	1.70	4.49	96	96	4.32
	Average	2.87	1.58	4.45	90	92	4.04
	F - Varieties	.27-	2.06-	.35-			
	L.S.D. (P = .05)	.36	.22	.50			
	C.V. (%)	10.4	11.7	9.4			
	% D.M.	22.2	24.5				

Cutting Treatment B: 3 cuts; 1st cut by June 10; last cut Sept. 20

Random Number	Varieties	Total Yield - Tons/Acre 6/12	8/5	9/22	Total	% Legume 6/12	8/5	9/22	Legume Fraction
7	Vernal	2.72	1.56	.84	5.11	81	88	100	4.42
8	Narragansett	2.57	1.68	.95	5.20	90	93		4.83
9	Ranger	2.53	1.44	.92	4.90	81	87		4.22
10	Atlantic	2.62	1.58	.98	5.18	93	96		4.93
11	DuPuits	2.42	1.92	1.13	5.47	90	97		5.17
12	Cardinal	2.52	1.74	1.01	5.28	90	98	↓	4.98
	Average	2.56	1.65	.97	5.19	87	93	100	4.73
	F - Varieties	1.12-	7.14**	3.54*	1.22-				
	L.S.D. (P=.05)	.28	.18	.15	.49				
	C.V. %	9.1	9.2	12.8	8.0				
	% D.M.	19.9	22.7	19.4					

Cutting Treatment C: 3 cuts; 1st cut by June 10; last cut Sept. 10

Random Number	Varieties	Total Yield - Tons/Acre 6/12	8/5	9/11	Total	% Legume 6/12	8/5	9/11	Legume Fraction
13	Vernal	2.59	1.58	.88	5.05	93	97	100	4.82
14	Narragansett	2.70	1.74	.92	5.36	93	96		5.10
15	Ranger	2.58	1.47	.71	4.76	87	94		4.34
16	Atlantic	2.71	1.65	.88	5.23	95	96		5.04
17	DuPuits	2.63	1.91	1.01	5.55	93	95		5.27
18	Cardinal	2.60	1.95	1.04	5.59	96	99	↓	5.47
	Average	2.63	1.72	.91	5.26	93	96	100	5.01
	F - Varieties	.85-	6.58**	9.83**	6.42**				
	L.S.D. (P=.05)	.18	.21	.11	.36				
	C.V. %	5.7	10.5	10.1	5.8				
	% D.M.	19.7	22.8	17.4					

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Table 28. 1958 Data from 1956 Alfalfa Vareity and Management Trial - Ketola Field

Cutting Treatment D: 3 cuts; 1st cut by June 5; last cut Sept. 20

Random Number	Varieties	Total Yield-Tons/Acre 6/4	8/5	9/22	Total	% Legume 6/4	8/5	9/22	Legume Fraction
19	Vernal	2.41	1.90	1.15	5.46	83	94	100	4.94
20	Narragansett	2.32	1.83	1.09	5.24	90	93		4.88
21	Ranger	2.02	1.53	.91	4.47	84	93		4.03
22	Atlantic	2.26	1.86	1.13	5.25	82	96		4.77
23	DuPuits	2.19	2.19	1.24	5.62	96	100		5.53
24	Cardinal	2.18	2.15	1.17	5.49	95	98	✓	5.35
	Average	2.23	1.91	1.11	5.26	88	96	100	4.91
	F - Varieties	6.47**	13.96**	14.27**	11.90**				
	L.S.D.(P=.05)	.15	.19	08	35				
	C.V. %	5.8	8.2	6.4	5.6				
	% D.M.	18.8	23.0	19.7					

Cutting Treatment E: 3 cuts; 1st cut by June 10; last cut Sept. 30

Random Number	Varieties	Total Yield - Tons/Acre 6/12	8/5	9/30	Total	% Legume 6/12	8/5	9/30	Legume Fraction
25	Vernal	2.46	1.54	.90	4.91	93	98	100	4.70
26	Narragansett	2.61	1.62	.93	5.16	92	96		4.89
27	Ranger	2.39	1.44	.82	4.65	91	98		4.41
28	Atlantic	2.45	1.52	.85	4.81	94	99		4.66
29	DuPuits	2.44	2.07	1.13	5.64	99	100		5.62
30	Cardinal	2.45	1.89	1.09	5.42	96	99	↓	5.31
	Average	2.47	1.68	.95	5.10	94	98	100	4.92
	F - Varieties	1.98-	16.89**	7.87**	10.51**				
	L.S.D.(P=.05)	.15	.17	.13	.34				
	C.V. %	5.2	8.7	11.6	5.6				
	% D.M.	19.3	22.4	20.6					

Cutting Treatment F: 4 cuts; 1st cut May 25; last cut Oct. 10

Random Number	Varieties	Total Yield - Tons/Acre 5/28	7/10	8/14	10/14	Total	% Legume 5/28	7/10	8/14	10/14	Legume Fraction
31	Vernal	1.34	1.11	1.01	.39	3.85	100	100	100	100	3.85
32	Narragansett	1.29	1.09	1.08	.40	3.86			97		3.83
33	Ranger	1.24	.93	.92	.35	3.44			98		3.42
34	Atlantic	1.31	1.04	.97	.40	3.73			99		3.71
35	DuPuits	1.32	1.22	1.08	.55	4.16			100		4.16
36	Cardinal	1.38	1.24	1.09	.58	4.29	↓	↓	100	↓	4.29
	Average	1.31	1.11	1.02	.45	3.89	100	100	99	100	3.88
	F - Varieties	4.93**	9.00**	2.22-	9.67**	7.07**					
	LSD(P=.05)	.06	.11	.14	.09	.34					
	CV %	4.0	8.4	11.2	16.3	7.2					
	% D.M.	16.7	19.2	21.4	21.4						

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Table 29. 1957-58 Data Summary from 1956 Alfalfa Variety and Management Trial - Ketola Field

Total Season Yield in Tons/Acre (12% moisture)

Variety	(A) 2 cuts/season 1957	1958	57-58	(F) 4 cuts/season 1957	1958	57-58	(D) 3 cuts/season (1st-June 5; last Sept.20) 1957	1958	57-58
Vernal	4.49	4.35	4.42	4.39	3.85	4.12	5.11	5.46	5.28
Narragansett	4.77	4.57	4.67	4.50	3.86	4.18	4.93	5.24	5.08
Ranger	3.98	4.30	4.14	3.89	3.44	3.66	4.12	4.47	4.29
Atlantic	4.33	4.47	4.40	4.37	3.73	4.05	5.02	5.25	5.13
DuPuits	4.68	4.50	4.59	5.00	4.16	4.58	5.10	5.62	5.36
Cardinal	4.55	4.49	4.52	4.97	4.29	4.63	4.79	5.49	5.14
Average	4.47	4.45	4.46	4.52	3.89	4.20	4.85	5.26	5.05
F - Varieties	5.57**	.35-		24.45**	7.07**		17.68**	11.90**	
L.S.D.(P=.05)	.35	.50		.25	.34		.26	.35	
C.V.	6.6	9.4		4.6	7.2		4.5	5.6	

Variety	(C) 3 cuts/season (1st-June 10; last-Sept.10) 1957	1958	57-58	(B) 3 cuts/season (1st June 10; last-Sept 20) 1957	1958	57-58	(E) 3 cuts/season (1st June 10; last-Sept.30) 1957	1958	57-58
Vernal	4.85	5.05	4.95	5.36	5.11	5.23	4.73	4.91	4.82
Narragansett	4.72	5.36	5.04	5.39	5.20	5.29	4.85	5.16	5.00
Ranger	4.26	4.76	4.51	4.79	4.90	4.84	4.23	4.65	4.44
Atlantic	4.87	5.23	5.05	5.17	5.18	5.17	4.77	4.81	4.79
DuPuits	5.05	5.55	5.30	5.66	5.47	5.56	5.20	5.64	5.42
Cardinal	4.90	5.59	5.24	5.33	5.28	5.30	5.07	5.42	5.24
Average	4.77	5.26	5.01	5.28	5.19	5.23	4.81	5.10	4.95
F - Varieties	6.62**	6.42**		5.42**	1.22-		11.06**	10.51**	
L.S.D.(P=.05)	.31	.36		.36	.49		.30	.34	
C.V.	5.4	5.8		5.7	8.0		5.2	5.6	

Table 30. Summary of 1958 Data from 1956 Alfalfa Variety Trial - Ketola Field. Broadcast seeded May 11, 1956; 5 x 5 balanced lattice. Seeding rate: 50 viable seed/sp. ft. Cutting management; 3 cuts/season

Random Number	Variety	Yield - Tons Per Acre (12% M) 6/6	8/4	9/10	Total	% Legume 6/6	8/4	9/10	Total Yield Alfalfa Fraction	% D.M. 6/6	Total Yield 1957-58 Average
1	Ranger	2.08	2.04	.75	4.87	99	100	100	4.85	18.1	4.58
2	New York Syn. 22	2.12	2.31	.81	5.23	99			5.22	17.4	4.88
3	Narragansett	2.27	2.28	.84	5.39	98			5.34	18.5	5.19
4	Narragansett	2.23	2.27	.86	5.36	100			5.36	18.3	5.18
5	Vernal	2.18	2.10	.79	5.08	100			5.08	18.0	4.96
6	Vernal	2.27	2.08	.82	5.17	100	100	100	5.17	18.7	5.08
7	N.Y. Creeping -55	1.72	1.81	.46	3.98	88			3.78	18.2	3.63
8	Atlantic	2.23	2.20	.87	5.29	96			5.21	18.5	5.02
9	Lahontin	1.95	2.11	.81	4.86	98			4.83	19.1	4.36
10	Williamsburg	2.10	2.32	.96	5.38	98			5.34	18.2	5.12
11	New York 24	2.06	2.15	.66	4.87	98	100	100	4.83	17.9	4.49
12	Grimm	2.18	2.32	.85	5.35	98			5.31	18.1	5.01
13	DuPuits	2.08	2.46	.94	5.48	100			5.48	19.0	5.29
14	DuPuits	2.27	2.53	.96	5.76	98			5.71	19.0	5.41
15	New York 26A	1.84	2.00	.57	4.41	98			4.37	17.6	4.14
16	Cardinal	2.12	2.59	1.02	5.73	100	100	100	5.73	18.6	5.42
17	Socheville	2.16	2.62	1.01	5.79	99			5.77	18.8	5.40
18	Desprez #5769	2.08	2.55	.96	5.59	100			5.59	18.9	5.28
19	Desprez #5770	2.12	2.49	.94	5.55	99			5.53	19.2	5.29
20	Lucerne Alfa	2.12	2.75	1.02	5.89	100			5.89	18.1	5.51
21	N.Y. Syn A (scar.)	2.33	2.32	.90	5.55	99	100	100	5.53	18.1	5.31
22	N.Y. Syn B	2.25	2.32	.94	5.51	100			5.51	18.2	5.25
23	N.Y. Syn C (scar.)	2.28	2.06	.81	5.15	98			5.10	18.7	4.99
24	Purdue Syn F	2.19	2.18	.78	5.15	98			5.11	18.1	4.91
25	New York 29A	2.08	2.16	.68	4.91	94			4.80	18.6	4.69
	Average	2.13	2.28	.84	5.25	98	100	100	5.21	18.4	4.97
	F-Varieties	4.92**	7.07**	14.22**	9.50**						
	L.S.D. (P=.05)	.22	.24	.10	.40						
	C.V. (%)	7.3	9.1	10.8	6.6						
	Ave. D.M. (%)	18.4	22.9	17.5							

Notes: Season cold, late and wet. No flowering on either 1st or 3rd cuttings. Drainage conditions within trial reflected on vigor and growth of forage. Growth was excellent over tiles; depressed between them. Vigor of Flemish type varieties most evident in second harvest.

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Table 31. 1958 Data from 1956 Alfalfa Variety x Association x Fertility Trial

Broadcast seeded May 9, 1956 with companion crop of oats. Split-split plot design; 5 replications; 2 fertility levels, 2 associations and 6 varieties; seeding rates: 10#/A - alfalfa, 6#/A - timothy; cutting management - 3 cuts/season.

Fertility Levels: (1) Low Fertilizer - 400# 8-16-16 at planting time; 200# 0-20-20 annually

(2) High Fertilizer- 700# 8-16-16 at planting time; 400# 0-20-20 annually

Alfalfa Alone

(1) Low-Fertilizer

Random Number	Variety	Total Yield – Tons Per Acre (12% moisture) 6/23	8/19	9/29	Total	% Legume 6/23	8/19	9/29	Legume Fraction
1	DuPuits	2.48	1.75	1.04	5.27	53	98	98	4.05
2	Vernal	2.58	1.59	.75	4.92	52	87	88	3.38
3	Narragansett	2.69	1.82	.83	5.34	67	90	93	4.21
4	Cardinal	2.76	1.60	.87	5.23	51	93	94	3.71
5	Ranger	2.57	1.48	.66	4.72	57	86	85	3.30
6	Pennscott R.C.	2.57	.81	.16	3.54	23	9	6	.67
	Average	2.61	1.51	.72	4.83	50	77	77	3.02
	F – Varieties	.76–	40.2**	74.43**	20.12**				
	L.S.D. (P=.05)	.34	.17	.10	.77				
	C.V %	9.8	8.5	10.8	7.0				
	% D.M.	21.0	24.3						

(2) High-Fertilizer

1	DuPuits	2.73	1.83	1.07	5.63	54	93	96	4.20
2	Vernal	2.65	1.72	.81	5.18	59	88	86	3.77
3	Narragansett	2.80	1.79	.90	5.49	62	85	89	4.06
4	Cardinal	2.50	1.86	1.06	5.42	54	96	96	4.15
5	Ranger	2.32	1.44	.59	4.34	38	74	65	2.33
6	Pennscott R.C.	2.41	.98	.29	3.68	21	23	21	.79
	Average	2.57	1.60	.79	4.96	48	77	76	3.07
	F – Varieties	2.00–	16.06**	33.83**	13.34**				
	L.S.D. (P=.05)	.39	.25	.15	1.08				
	C.V. %	11.6	11.9	14.6	9.6				
	% D.M.	20.8	24.1						

Table 32. 1958 Data from 1956 Variety Trial

Management: 3 cuttings per season

Fertility Levels: (1) Low-fertilizer level 400# 8-16-16 at planting; 200# 0-20-20 annually

(2) High-fertilizer level 700# 8-16-16 at planting; 400# 0-20-20 annually

(1) Low Fertilizer — Alfalfa + Timothy

Random Number	Variety	Total Yield - Tons per Acre 6/23	8/19	9/29	Total	% Legume 6/23	8/19	9/29	Legume Fraction
1	DuPuits	2.73	1.46	.83	5.02	26	98	87	2.86
2	Vernal	2.91	1.29	.50	4.69	26	87	48	2.12
3	Narragansett	3.06	1.40	.68	5.14	28	90	69	2.59
4	Cardinal	2.64	1.40	.73	4.78	23	93	72	2.43
5	Ranger	2.74	1.07	.47	4.28	19	86	63	1.74
6	Pennscott R.C.	2.74	.89	.26	3.90	14	9	14	.50
	Average	2.80	1.25	.58	4.63	23	77	59	1.95
	F - Varieties	1.99-	17.16**	14.46**	6.77**				
	L.S.D. (P=.05)	.32	.16	.16	.92				
	C.V. %	8.6	9.7	21.0	8.7				
	% D.M.	21.9	24.5						

(2) High Fertilizer

1	DuPuits	2.93	1.55	.91	5.39	24	88	87	2.86
2	Vernal	2.80	1.24	.50	4.54	18	59	59	1.53
3	Narragansett	2.87	1.46	.62	4.96	23	76	70	2.20
4	Cardinal	2.59	1.27	.65	4.52	13	75	65	1.71
5	Ranger	2.66	.95	.35	3.96	11	42	38	.82
6	Pennscott R.C.	2.89	1.05	.26	4.21	14	19	14	.64
	Average	2.79	1.25	.55	4.60	17	60	55	1.53
	F - Varieties	1.53-	5.37**	18.12**	6.24**				
	L.S.D. (P=.05)	.33	.29	.16	1.06				
	C.V. %	8.9	17.8	22.3	10.1				
	% D.M.	22.1	24.7						

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Table 33. 1956 Alfalfa Variety Trial; 1957-58 Summary of Data

Management: 3 cuttings per season

Total Yield of 12% Moisture Hay - Tons/Acre

Random Number	Variety	Alfalfa Alone – Low Level Fertility 1957	1958	57-58	Alfalfa Alone – High Level Fertility 1957	1958	57-58	Alfalfa Alone Avg. Total	Alfalfa + Timothy – Low Level Fertility 1957	1958	57-58	Alfalfa + Timothy – High Level Fertility 1957	1958	57-58	Avg. Total (+ Tim)	Avg. 57-58 Prod. All Fert. Levels AND Assn's
1	DuPuits	4.43	5.27	4.85	4.41	5.63	5.02	4.93	3.87	5.02	4.44	3.91	5.39	4.65	4.54	4.73
2	Vernal	3.89	4.92	4.40	3.88	5.18	4.53	4.46	3.42	4.69	4.05	3.15	4.54	3.84	3.94	4.20
3	Narragansett	4.16	5.34	4.75	4.30	5.49	4.89	4.82	3.63	5.14	4.38	3.28	4.96	4.12	4.25	4.53
4	Cardinal	3.83	5.23	4.53	4.10	5.42	4.76	4.64	3.57	4.78	4.17	3.24	4.52	3.88	4.02	4.33
5	Ranger	3.42	4.72	4.07	3.14	4.34	3.74	3.90	3.05	4.28	3.66	2.64	3.96	3.30	3.48	3.69
6	Pennscott R.C	4.49	3.54	4.01	4.19	3.68	3.93	3.97	4.33	3.90	4.11	4.52	4.21	4.36	4.23	4.10
	Average	4.04	4.83	4.43	4.00	4.96	4.48	4.45	3.65	4.63	4.14	3.46	4.60	4.03	4.08	4.26
	F-Varieties	8.95**	20.12**		6.32**	13.34**			6.48**	6.77**		13.71**	6.24**			
	L.S.D.(P=.05)	.45	.77		.60	1.08			.56	.92		.59	1.06			
	C.V. %	7.5	7.0		10.2	9.6			10.4	8.7		11.5	10.1			

Legume Fraction of Hay (Based on composition estimates at harvest)

1	DuPuits	4.05	4.05	4.05	3.81	4.20	4.00	4.02	1.83	2.86	2.34	1.88	2.86	2.37	2.35	3.18
2	Vernal	3.47	3.38	3.42	3.34	3.77	3.55	3.48	1.02	2.12	1.57	.79	1.53	1.16	1.36	2.42
3	Narragansett	3.65	4.21	3.93	3.68	4.06	3.87	3.90	1.35	2.59	1.97	1.02	2.20	1.61	1.79	2.84
4	Cardinal	3.14	3.71	3.42	3.45	4.15	3.80	3.61	1.41	2.43	1.92	.93	1.71	1.32	1.62	2.61
5	Ranger	2.95	3.30	3.12	2.40	2.33	2.36	2.74	.69	1.74	1.21	.30	.82	.56	.88	1.81
6	Pennscott R.C	4.04	.67	2.35	3.63	.79	2.21	2.28	2.43	.50	1.46	2.70	.64	1.67	1.56	1.92
	Average	3.55	3.02	3.28	3.36	3.07	3.21	3.24	1.41	1.95	1.68	1.16	1.53	1.34	1.51	2.37

Notes: (1) Completion from companion crop and the mixture grass was a determining factor on establishment and subsequent performance. Conditions were good for expression of variety differences in establishment.

(2) The high fertility level gave little additional forage; it intensified the competition effect to the detriment of the less aggressive varieties.

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Table 34. 1958 Data from 1957 Alfalfa Single Cross Trial - Ketola Field. Broadcast Seeded April 30, 1957.
Randomized Block Design - 4 Replications. Cutting Management: 3 Cuts/Season

Random Number	Lot No.	Identification	Yield - Tons Per Acre				% Legume			Alfalfa Fraction	Color (10=most green)		Height (10= tallest)
			6/12	8/4	9/11	Total	6/12	8/4	9/11		8/4	9/11	9/11
1	57-65	(49-40xMinn. 247)	2.12	1.27	.63	4.02	92	89	100	3.71	8.0	8.5	6.5
2	57-75	(49-18 x Minn. 247)	1.97	1.67	1.01	4.65	89	90		4.27	10.0	10.0	9.2
10	57-74	(49-40 x Minn. 265)	2.69	1.69	.92	5.30	94	94		5.04	7.5	7.8	6.8
6	57-70	(49-18 x Minn. 265)	2.32	1.75	1.03	5.11	93	94		4.83	9.5	9.5	9.2
5	57-69	(49-40 x S. Dak. H2-7)	2.43	1.38	.84	4.65	91	81		4.17	8.2	8.2	7.5
4	57-68	(49-18 x S. Dak. H2-7)	2.36	1.67	1.06	5.09	89	95		4.75	10.0	9.8	9.0
8	57-72	(49-40 x S. Dak. H2-5)	1.93	1.25	.61	3.79	92	81		3.40	8.0	7.8	6.2
3	57-67	(49-18 x S. Dak. H2-5)	2.37	1.76	1.13	5.26	95	96		5.07	9.8	10.0	9.0
14	57-78	(49-40 x Iowa 42)	2.09	1.38	.76	4.22	90	89		3.87	7.8	8.5	7.5
20	57-84	(49-18 x Iowa 42)	2.35	1.58	.97	4.90	89	94		4.55	9.5	10.0	8.8
25	57-89	(49-40 x Iowa 187-7)	2.37	1.40	.88	4.64	89	89		4.24	7.8	8.8	6.8
15	57-79	(49-18 x Iowa 187-7)	2.51	1.86	1.13	5.50	91	91		5.11	10.0	10.0	8.8
21	57-85	(49-40 x Nebr. 1740)	2.53	1.66	1.02	5.21	94	98		5.02	9.0	9.2	7.5
18	57-82	(49-18 x Nebr. 1740)	2.52	1.82	1.19	5.52	93	95		5.26	10.0	10.0	8.8
22	57-86	(49-40 x Nebr. 1996)	2.49	1.46	.94	4.88	90	86		4.44	8.0	8.8	7.2
26	57-90	(49-18 x Nebr. 1996)	2.20	1.66	1.06	4.94	95	98		4.78	9.8	10.0	9.0
19	57-83	(49-40 x Pa. 53-13)	2.62	1.67	1.10	5.40	90	92		4.99	9.5	9.8	9.0
23	57-87	(49-18 x Pa. 53-13)	2.55	1.73	1.12	5.40	86	92		4.90	10.0	9.8	9.2
13	57-77	(49-40 x Pa. 53-19)	2.60	1.79	1.12	5.50	94	99		5.34	8.8	9.0	8.2
17	57-81	(49-18 x Pa. 53-19)	2.22	1.55	1.15	4.92	90	96		4.64	9.5	10.0	8.8

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Table 34. Continued

Random Number	Lot No.	Identification	Yield - Tons Per Acre 6/12	8/4	9/11	Total	% Legume 6/12	8/4	9/11	Yield Alfalfa Fraction	Color (10= most green) 8/4	9/11	Height (10=tallest) 9/11
24	57-88	(49-40 x C 902 Nev.)	2.32	1.61	1.09	5.01	89	91	100	4.62	8.5	8.8	9.0
9	57-73	(49-18 x C 902 Nev.)	2.15	1.66	1.11	4.93	92	96		4.68	9.5	10.0	9.5
7	57-71	(49-40 x N.Car. 4)	2.37	1.50	1.00	4.88	94	95	↓	4.65	9.2	8.0	8.0
16	57-80	(49-18 x N.Car. 4)	2.57	1.85	1.20	5.62	92	95		5.32	9.8	9.5	9.5
2	57-66	(49-18 x C 89 Nev.)	2.14	1.73	1.10	4.97	95	98		4.83	10.0	10.0	10.0
12	57-76	(49-40 x 49-18)	2.52	1.64	1.17	5.33	87	92		4.87	9.8	10.0	9.0
27	57-58	Narragansett	2.90	1.75	1.11	5.76	87	91		5.23	9.0	8.8	8.2
28	57-49	DuPuits	2.64	2.14	1.28	6.06	95	98		5.89	10.0	9.5	10.0
29	57-64	Vernal	2.50	1.87	1.02	5.38	96	94	↓	5.18	8.3	8.0	8.0
		Average	2.39	1.65	1.03	5.06	91	93	100	4.74	9.1	9.2	8.4
		F - Varieties	4.03**	4.74**	8.44**	6.38**							
		L.S.D. (P= .05)	.31	.25	.15	.56							
		C.V. (%)	9.3	10.8	10.6	7.8							
		Ave. D.M. %	17.7	21.3	17.2								
	Average 49-40 in 12 single x's		2.38	1.51	.91	4.79							
	Average 49-18 in 12 single x's		2.34	1.71	1.10	5.15							

Notes:

1. All entries seeded at 8 gram per plot with no adjustment for seed germination. Stands are generally good but this procedure may have influenced performance relative to the check varieties.

2. Legume composition of second harvest (rest is volume grass) is a good criterion of differences in establishment. These indicate stand differences are minor.

3. Color and recovery habit as reflected by yield and height estimate were very distinct.

4. Relationships between 48-18 and 49-40 and at least one Pa. clone appear to have definitely affected performance.

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Table 35.
Yield (Tons Dry Matter/Acre) of Alfalfa Varieties at Five Locations in Pennsylvania in 1958. All results are averages of four replications, randomized block design. Broadcast Seeding. Seeding Rate: 10 lbs. per acre.

	Allentown-Planted 1955					Coudersport-Planted 1955		Seagerstown-Planted 1955				
	May 28	July 9	Aug. 12	Total	Average 1956-58	June 19	Average 1956-58	June 5	Aug. 5	Sept. 25	Total	Average 1956-58
DuPuits	1.66	1.22	.67	3.56	3.26	.86	1.54	2.21	1.78	1.08	5.06	3.90
Nomad	1.16	.09	.06	1.30	1.75	.81	1.31	1.37	1.45	.69	3.51	2.75
Buffalo	1.51	1.06	.72	3.28	2.71	.47	1.21	1.37	1.22	.69	3.28	2.51
Ranger	1.48	1.09	.62	4.19	3.00	.70	1.33	1.70	1.45	.84	3.98	3.04
Vernal	1.76	.91	.58	4.26	3.10	.97	1.57	2.03	1.44	.97	4.44	3.43
Narragansett	1.49	.89	.64	3.02	2.82	1.25	1.70	2.19	1.90	.94	5.03	3.79
Atlantic	1.46	.88	.62	2.96	2.74	.69	1.33	2.02	1.53	.89	4.44	3.42
A-224	1.38	.43	.16	1.97	2.13	.79	1.37	1.60	1.60	.56	3.76	2.88
Grimm	1.20	.28	.21	1.69	1.94	.75	1.46	1.41	1.40	.72	3.53	3.05
Alfa	----	----	---	----	----	---	----	----	----	----	----	----
Tourneur 501	----	----	---	----	---	---	----	----	----	----	----	----
Average	1.46	.76	.48	2.69	2.54	.81	1.42	1.77	1.53	.81	4.11	3.20
F	2.60*	16.08**	20.15**	24.00**		2.38*		9.22*	2.70*	3.77**	12.02**	
L.S.D. .05	.35	.29	.17	.47		.41		.34	.37	.25	.54	
CV %	16.57	25.92	23.85	21.31		34.31		13.07	16.41	20.88	16.06	

	Troy-Planted 1955					Ligonier-Planted 1957			
	June 12	July 24	Sept. 30	Total	Average 1956-58	June 16	July 29	Oct. 7	Total
DuPuits	2.21	.93	.74	3.89	2.78	1.36	1.43	.82	5.06
Nomad	1.70	.37	.10	2.16	1.81	1.13	1.05	.38	3.51
Buffalo	1.78	.53	.32	2.62	1.96	1.21	1.27	.64	3.28
Ranger	1.98	.72	.58	3.16	2.46	1.28	1.18	.44	3.98
Vernal	2.47	.90	.61	3.98	3.03	1.33	1.30	.57	4.44
Narragansett	2.16	.82	.54	3.52	2.65	1.33	1.22	.64	5.03
Atlantic	2.05	.81	.51	3.37	2.56	1.21	1.35	.72	4.44
A-224	2.23	.62	.36	3.22	2.44	----	----	----	----
Grimm	1.80	.76	.55	3.12	2.40	----	-----	---	----
Alfa	---	---	---	---	-----	1.21	1.33	.84	3.76
Tourneur 501	----	---	----	-----		1.19	1.34	.74	3.53
Average	2.03	.72	.46	3.23	2.45	1.25	1.28	.64	4.11
F	6.16**	6.41**	10.80**	18.49**		.90	10.00**	11.82**	12.02**
L.S.D. .05	.30	.21	.17	.39		----	.10	.13	.54
CV %	10.07	20.02	25.59	14.69		13.12	5.52	14.33	16.06

Table 36. NE-28 Alfalfa Polycross Progeny Test I - 1956

Location: Rocky Farm, University Park, Pa. 1958 Data

Yields average of four replications; randomized block design; broadcast seeding. Seeding Rate - 10 #/Acre

Random Number	Entry	Total Yield - Tons Per Acre				% Alfalfa			Total Alfalfa Fraction	Total Yield Average 1957-58
		Cut 1 6/11	Cut 2 7/25	Cut 3 9/2	Season Yield	6/11	7/25	9/2		
1	C - 10	2.00	.85	.94	3.78	94	100	100	3.67	3.24
2	C - 12	1.94	.97	1.15	4.06	98	↓	↓	4.02	3.39
3	C - 42	1.86	.83	1.00	3.69	94	↓	↓	3.58	3.10
4	C - 44	1.80	.90	1.12	3.82	99	↓	↓	3.80	3.19
5	C - 57	1.96	.91	1.01	3.88	95	↓	↓	3.77	3.16
6	C - 112	2.06	.84	1.12	4.01	92	↓	↓	3.86	3.15
7	C - 188	1.85	.85	1.03	3.73	98	↓	↓	3.68	3.04
8	NY 49-33	1.61	.80	.97	3.38	93	↓	↓	3.28	2.95
9	NY 49-40	1.57	.86	1.04	3.48	96	↓	↓	3.42	2.91
10	NY 49-55	1.62	.94	1.06	3.62	99	↓	↓	3.60	3.10
11	NY 49-60	1.59	.83	1.16	3.58	99	↓	↓	3.56	2.92
12	NY 49-72	1.75	.86	1.00	3.61	98	↓	↓	3.57	2.96
13	Atlantic	2.05	.77	1.09	3.92	91	↓	↓	3.70	3.13
14	DuPuits	1.65	1.00	1.02	3.67	98	↓	↓	3.64	3.04
15	Narragansett	1.76	.94	1.14	3.84	99	↓	↓	3.82	3.30
16	Vernal	1.81	.98	1.18	3.96	99	↓	↓	3.94	3.23
	Average	1.80	.88	1.06	3.75	96	100	100	3.68	3.11
	F - Varieties	N.S.	.42-	.71-	N.S.					
	L.S.D.	-	-	-	-					
	C.V. %	20.1	23.2	16.4	12.0					

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Table 37. NE-28 Alfalfa Polycross Test II - 1957

Location: University Park, Pa. 1958 Data

Yields average of four replications; randomized block design; broadcast seeding. Seeding Rate = 10 # Acre

Random Number	Entry	Total Yield - Tons Per Acre				% Alfalfa			Total Alfalfa Fraction
		6/3	7/21	8/27	Total	6/3	7/21	8/27	
17	C - 53	1.62	.85	.94	3.41	98	100	100	3.36
18	C - 91	1.53	1.00	.95	3.48	100			3.48
19	C - 187	1.56	1.05	1.23	3.83	100			3.83
20	C - 199	1.68	.99	.98	3.66	99			3.64
21	C - 221	1.55	.98	.93	3.46	100			3.46
22	NY 49 - 6	1.71	1.04	.98	3.74	100			3.74
23	NY 49 - 9	1.42	.96	.95	3.32	100			3.32
24	NY 49 - 14	1.51	.95	.95	3.42	99			3.40
25	NY 49 - 18	1.69	1.04	1.02	3.75	98			3.70
26	NY 49 - 19	1.55	.96	.97	3.48	100			3.48
27	NY 49 - 57	1.70	.89	.89	3.48	91			3.32
28	NY 49 - 75	1.59	1.04	1.00	3.64	100			3.64
29	Pa - 4	1.66	.96	1.03	3.65	100			3.65
13	Atlantic	1.48	1.03	.94	3.45	100			3.45
14	DuPuits	1.56	1.18	1.18	3.92	100			3.92
15	Narragansett	1.68	1.04	.96	3.68	99			3.66
16	Vernal	1.62	.98	.95	3.55	96			3.49
	Average	1.59	1.00	.99	3.81	99	100	100	3.56
	F - Varieties	.50-	1.72-	2.21*	1.28-				1.56-
	L.S.D. (P = .05)	-	-	.17	-				-
	C.V. %	15.0	10.9	11.7	8.2				7.9

Table 38. NE-28 Alfalfa Polycross Progeny Test III - 1956

Location: University Park, Pa. 1958 Data

Yields average of four replications; randomized block design; broadcast seeding. Seeding Rate - 12 # Acre

Random Number	Entry	Total Yield - Tons Per Acre				% Alfalfa			Total Alfalfa Fraction	Total Yield Average 1957-58
		6/11	7/22	9/2	Total	6/11	7/22	9/2		
30	57-Pa (51-A-542 11-5)	2.13	1.06	1.27	4.46	100	100	100	4.40	3.79
31	57-Pa (51-A-516 7-15)	1.98	1.02	1.25	4.26	100			4.26	3.23
32	57-Pa (51-A-503 7-7)	2.02	.92	1.20	4.15	100			4.78	3.42
33	57-Pa (51-A-504 7-9)	2.22	1.07	1.24	4.54	100			4.51	3.76
34	57-Pa (51-A-513 7-16)	2.19	1.10	1.28	4.58	98			4.42	3.70
35	57-Pa (51-A-511 7-12)	2.43	1.04	1.16	4.64	95			4.16	3.63
13	Atlantic	2.04	1.10	1.26	4.40	99			4.12	3.72
14	DuPuits	1.87	1.11	1.28	4.26	100			4.54	3.45
15	Narragansett	2.23	1.25	1.30	4.78	99			4.55	4.04
16	Vernal	2.14	1.12	1.26	4.52	100			4.38	3.55
	Average	2.13	1.08	1.25	4.46	99	100	100	4.41	3.62
	F - Varieties	2.06-	2.69*	.62-	2.11*				2.56*	
	L.S.D. (P = .05)	-	.15	-	.38				.35	
	C.V. %	10.2	9.5	9.0	6.0				5.6	

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Table 39. NE -28 Alfalfa Varieties and Synthetics - 1956

Location: University Park, Pa. 1958 Data

Yields average of four replications; randomized block design; broadcast seeding. Seeding Rate - 10#/Acre

Random Number	Entry	Total Yield - Tons Per Acre				% Alfalfa			Total Alfalfa Fraction	Total Yield Average 1957-58
		6/11	7/ -	9/2	Total	6/11	7/-	9/2		
36	Indiana Syn F	2.15	1.06	1.26	4.46	99	100	100	4.44	3.83
37	New York A	2.06	1.26	1.23	4.55	100			4.55	3.90
38	New York B	2.08	1.26	1.27	4.55	99			4.53	3.85
39	New York C	2.08	1.19	1.30	4.57	100			4.57	3.86
40	Syn A-242	2.39	1.15	1.15	4.70	97			4.64	3.78
41	Buffalo	1.75	1.06	1.13	3.94	100			3.94	3.38
42	Williamsburg	1.81	1.10	1.10	4.00	96			3.93	3.49
43	Lahontin	1.76	.91	.84	3.51	89			3.31	2.98
44	Ranger	2.02	1.11	1.07	4.19	97			4.14	3.48
13	Atlantic	1.97	1.18	1.21	4.36	97			4.31	3.77
14	DuPuits	2.14	1.27	1.17	4.58	100			4.58	3.94
15	Narragansett	2.14	1.26	1.20	4.60	100			4.60	3.93
16	Vernal	2.02	1.18	1.17	4.36	100	↓	↓	4.36	3.74
	Average	2.03	1.15	1.16	4.34	98	100	100	4.30	3.69
	F - Varieties	5.59**	9.22**	4.97**	4.67**				3.29**	
	L.S.D. (P = .05)	.22	.10	.15	.28				.47	
	C.V. %	7.4	5.8	9.0	4.5				4.5	

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Table 40. Interregional single cross test. Six replications seeded in triple lattice May 13, 1958, at the U. S. Regional Pasture Research Laboratory. Plots 5' x 20'. 1958 data.

Cross[1/]	Adjusted Mean Seedling Vigor[2/] August 22, 1958	Adjusted Mean % Stand August 21, 1958
C303 x C307	1.38	82.4
x C318	2.10	65.8
x C319	2.87	68.4
x C902	1.80	67.0
x N.C. 4	3.38	55.8
x Neb. 1740	4.13	68.1
x Neb. 1996	2.94	72.2
x Minn. 247	4.26	31.5
x Minn. 265	4.80	59.2
x Ia. 187-7	2.81	79.0
x Ia. 42	3.10	56.4
x S.D. H2-5	3.34	46.4
x S.D. H2-7	5.84	60.4
C307 x C318	1.65	77.3
x C319	2.20	78.2
x C902	1.89	72.5
x N.C. 4	2.66	72.1
x Neb. 1740	3.72	72.4
x Neb. 1996	2.88	82.6
x Minn. 247	4.48	53.8
x Minn. 265	4.97	71.2
x Ia. 187-7	2.33	87.8
x Ia. 42	4.53	63.3
x S.D. H2-5	4.84	57.9
x S.D. H2-7	4.51	64.6
C318 x C319	2.56	66.5
x C902	1.39	69.8
x N.C. 4	2.35	67.9
x Neb. 1740	2.65	55.4
x Neb. 1996	2.05	76.7
x Minn. 247	3.26	61.5
x Minn. 265	3.25	79.1
x Ia. 187-7	2.70	76.1
x Ia. 42	2.76	59.0
x S.D. H2-5	4.16	56.1
x S.D. H2-7	3.84	48.5

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Table 40. Continued

Cross[1]	Adjusted Mean Seedling Vigor[2] August 22, 1958	Adjusted Mean % Stand August 21, 1958
C319 x C902	2.07	77.8
x N.C. 4	4.07	57.2
x Neb. 1740	4.33	66.4
x Neb. 1996	4.33	67.5
x Minn. 247	5.43	70.7
x Minn. 265	5.45	60.6
x Ia. 187-7	4.36	72.9
x Ia. 42	4.67	58.8
x S.D. H2-5	6.21	57.4
x S.D. H2-7	6.09	72.9
C902 x N.C. 4	2.44	64.5
x Neb. 1740	2.49	80.9
x Neb. 1996	1.81	79.8
x Minn. 247	4.00	39.4
x Minn. 265	3.69	55.8
x Ia. 187-7	2.90	71.4
x Ia. 42	3.05	54.1
x S.D. H2-5	3.37	35.3
x S.D. H2-7	4.29	60.5
N.C. 4 x Neb. 1740	3.26	77.7
x Neb. 1996	4.63	70.5
x Minn. 247	6.74	35.7
x Minn. 265	6.28	51.4
x Ia. 187-7	3.89	70.4
x Ia. 42	4.54	56.5
x S.D. H2-5	6.29	40.5
x S.D. H2-7	5.51	69.3
Neb. 1740 x Neb. 1996	4.04	71.7
x Minn. 247	5.73	61.4
x Minn. 265	5.91	80.1
x Ia. 187-7	4.82	69.9
x Ia. 42	5.54	63.2
x S.D. H2-5	6.48	60.8
x S.D. H2-7	6.95	66.8
Neb. 1996 x Minn. 247	6.70	55.3
x Minn. 265	6.33	61.4
x Ia. 187-7	4.25	75.9
x Ia. 42	5.78	67.7
x S.D. H2-5	7.01	48.3
x S.D. H2-7	6.60	66.0

PENNSYLVANIA - University Park

Table 40. Continued

Cross 1/	Adjusted Mean Seedling Vigor 2/ August 22, 1958	Adjusted Mean % Stand August 21, 1958
Minn. 247 x Minn. 265	8.85	33.1
x Ia. 187-7	5.57	70.1
x Ia. 42	7.14	27.8
x S.D. H2-5	8.56	47.4
x S.D. H2-7	8.68	57.3
Minn. 265 x Ia. 187-7	5.15	81.4
x Ia. 42	7.70	47.8
x S.D. H2-5	8.56	41.9
x S.D. H2-7	8.43	65.3
Ia. 187-7 x Ia. 42	4.08	74.9
x S.D. H2-5	5.71	65.9
x S.D. H2-7	5.43	83.2
Ia. 42 x S.D. H2-5	7.62	48.9
x S.D. H2-7	7.46	52.7
S.D. H2-5 x S.D. H2-7	9.01	66.5
Mass. Polycross #1	4.28	65.2
#2	4.33	6.19
#3	3.68	58.9
C89 x Ind. 136	2.40	70.2
Atlantic F.C. 34044	2.67	79.9
Buffalo F.C. 34042	2.31	71.2
Narragansett F.C. 34045	3.58	76.7
Ranger F.C. 34043	3.29	71.9
Vernal F.C. 34104	4.11	79.0
$\bar{X}$ of all single crosses	4.56	63.4
L.S.D. (.05)	0.93	15.8
(.01)	1.23	20.9

1/ An equal amount of germinable seed from reciprocals of each single cross was used.

2/ 1 = most vigorous. Notes taken on recovery growth of seedlings three weeks following clipping for weed control.

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Table 41. Evaluation of clones selected from Canadian creeping-rooted synthetics. Test established May 8, 1957 in four replicates with 5 plants per clone per replication at the U. S. Regional Pasture Research Laboratory. One-half of replicates overseeded with timothy August 1957. 1958 data.

Clone	Degree of Spreading September 12, 1958
56-101	8.8
102	8.0
103	6.8
104	9.8
105	10.0
106	8.8
107	9.0
108	9.8
109	10.0
110	6.3
111	9.8
112	8.5
113	7.0
114	9.0
115	6.8
116	9.5
117	8.8
118	8.5
119	8.5
120	5.5
121	6.8
122	7.3
123	10.0
124	3.3
125	6.5
126	3.8
127	9.8
128	1.3

Table 41. Continued

Clone	Degree of Spreading September 12, 1958
56-129	2.3
130	9.5
131	10.0
132	7.5
133	2.3
134	6.3
135	9.0
136	9.3
137	3.5
138	2.3
139	8.5
140	1.0
141	5.5
142	8.8
143	8.8
144	2.3
145	2.3
146	2.5
147	10.0
148	3.3
149	4.8
150	8.3
151	1.3
152	4.0
153	1.8
154	2.5
155	7.0
156 (from Vernal)	10.0
157	3.5
158	3.3
159	8.8
160	4.0
161	3.3
53- 10 (Tap-rooted check)	10.0
Rambler (Seedlings)	4.4
L.S.D. .05	1.7
.01	2.3

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RHODE ISLAND - Kingston
Rhode Island Agricultural Experiment Station

Uniform Alfalfa Test

Results - 1958

The 1958 season was generally favorable for alfalfa growth. Moisture was not limiting as in 1957 and 3 cuttings were removed.

Table 42 represents yield data in tons per acre at 12 percent moisture.

1. Seeded - May 2, 1956
   Randomized block design - 4 replications
2. Seeding rate - 12 pounds per acre germinable seed
3. Fertilizer - 600 pounds per acre 0-15-30 in split applications annually.
4. Harvest dates and stage of maturity.

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RHODE ISLAND - Kingston

Table 42. Uniform alfalfa test, Kingston, R. I.

Seeded - May 1956 (broadcast)
Experimental Design - Randomized block - 4 replications.

Variety	Stand (%) 8/12	Total Yield - 12% Moisture 1st Cut 6/24	2nd Cut 7/28	3rd Cut 9/12	Season Yield 1958	Average Yield 57-58
Atlantic	83	1.79	1.13	.80	3.72	3.28
Williamsburg	85	1.78	1.22	.83	3.83	3.02
Ranger	78	1.76	0.94	.72	3.42	2.88
Narragansett	84	1.77	1.20	.83	3.80	3.30
Buffalo	76	1.67	1.04	.78	3.49	2.76
Grimm	83	1.74	1.12	.74	3.60	2.71
Rhizona	84	1.68	1.24	.84	3.76	3.02
Lahontan	79	1.47	0.78	.58	2.83	2.28
DuPuits	86	2.00	1.40	.90	4.30	3.63
Vernal	79	1.81	1.05	.73	3.59	2.92
Sevelra	79	1.70	1.05	.66	3.41	2.82
Talent	88	1.39	1.03	.72	3.14	2.55
Nomad	61	1.50	0.74	.64	2.88	2.24
A-224	71	1.77	1.16	.68	3.61	2.79
Average	79.6	1.70	1.08	.75	3.53	2.87
L.S.D. (=.05)	7.7	.28	.23	0.09	.35	.32
C.V. (%)	6.95	11.76	14.54	8.70	6.91	2.51

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SOUTH CAROLINA - Clemson

Alfalfa Variety Test - 1958

Diseases were not a significant factor in alfalfa production at Clemson in 1958. Relative varietal yield performance was similar to the two previous years, and weather conditions favored excellent yields at each of the four cuttings.

At the first cutting, Du Puits and Socheville were noticeably taller than other varieties. This characteristic is reflected to some degree in the higher yields of these varieties at the first cutting. The high yields produced by Narragansett are apparently the result of a greater number of stems or shoots, since it is a shorter growing variety and the period of winter dormancy is somewhat longer than for most other varieties tested. Stands of the non-hardy varieties were noticeably reduced in 1958.

No significant differences were obtained from the various rates and methods of seeding. Yields at the 24-pound rate of seeding averaged only .17 ton higher than the 12-pound rate. Even smaller differences were noted between the two higher rates of seeding and between methods.

Table 43. Alfalfa Rate of Seeding Test

Seeding method	Seeding rate in pounds	Yield in tons per acre of oven-dry forage			
		1956	1957	1958	Average
Broadcast	12	1.93	4.63	4.08	3.55
Drilled	12	1.97	4.58	4.15	3.57
Cross-drilled	12	1.71	4.60	4.31	3.54
Average		1.87	4.60	4.18	3.55
Broadcast	24	2.15	4.76	4.25	3.72
Drilled	24	2.33	4.56	4.24	3.71
Cross-drilled	24	2.09	4.72	4.40	3.74
Average		2.19	4.68	4.30	3.72
Broadcast	36	2.31	4.66	4.17	3.71
Broadcast	48	2.49	4.65	4.31	3.82
Least significant difference (5% level)		.56 tons	N.S.	N.S.	
Coefficient of variation		11%	4.5%	6.8%	

Soil type: Cecil sandy loam

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SOUTH CAROLINA - Clemson

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SOUTH CAROLINA - Clemson

Table 44. Alfalfa Variety Test - 1958

Variety	Yield of hay 1/ in tons per acre
Socheville	4.58
Oklahoma Common	4.47
Narragansett	4.35
DuPuits	4.35
Sandhill Common	4.32
Williamsburg	4.22
Buffalo	4.16
Kansas Common	4.09
Vernal	4.03
Atlantic	4.02
Ranger	4.00
Caliverde	3.98
Arizona Common	3.64
NK - 100	3.38
Indian	3.03
African	2.68
L.S.D. (5% level)	.37 tons
Coefficient of variation	8.8%

1/ Oven-dry forage

Soil type: Cecil sandy loam
Date of planting: October 15, 1955
Rate of seeding: 40 pounds per acre broadcast
Number of replicates: Five
Experimental design: 4 x 4 balanced lattice
Fertilization (1958): 600# 0-14-14 + 8# Colemanite applied after first cutting.
150# Muriate of potash (62%) after third cutting.
Dates of harvesting (1958): May 8, June 12, July 25, August 28

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SOUTH CAROLINA - Clemson and Florence

Table 45. Performance of Alfalfa Varieties

Variety	Hay yields in tons per acre 1/						
	Clemson			Florence			2-year, 2-location average
	1956	1957	Average	1956	1957	Average	
Narragansett	2.60	4.81	3.71	4.24	3.99	4.12	3.92
DuPuits	2.23	4.95	3.59	4.26	4.15	4.21	3.90
Socheville	2.22	4.87	3.55	4.38	4.12	4.25	3.90
Williamsburg	2.12	4.81	3.47	4.15	4.00	4.08	3.78
Oklahoma Common	2.24	4.79	3.52	4.25	3.72	3.99	3.76
Vernal	2.35	4.66	3.51	4.01	3.89	3.95	3.73
Ranger	2.22	4.47	3.35	4.07	3.95	4.01	3.68
Caliverde	2.27	4.46	3.37	4.23	3.61	3.92	3.65
Sandhill Common	1.98	4.59	3.29	3.84	4.15	4.00	3.65
Kansas Common	1.98	4.58	3.28	4.06	3.91	3.99	3.64
Atlantic	2.07	4.46	3.27	4.28	3.55	3.92	3.60
Buffalo	2.17	4.70	3.44	3.86	3.54	3.70	3.57
Indian	2.17	3.99	3.08	4.67	3.30	3.99	3.54
Arizona Common	1.94	4.81	3.38	3.72	3.22	3.47	3.43
African	1.97	3.57	2.77	4.48	3.15	3.82	3.30
NK-100	1.91	3.63	2.77	4.43	2.64	3.54	3.16
Least significant difference (5% level)	.40	.35	-	.32	.36		
Coefficient of variation	14%	6%		6%	8%		

1/ Forage yields calculated on oven-dry basis.

SOUTH CAROLINA - Clemson and Florence

Table 45. Continued

	Clemson	Florence
Date seeded	October 15, 1955	October 1955
Size of plots	5' x 15' (harvested 3' x 13')	5' x 15' harvested (2-2/3' x 14')
Plot design	5 x 5 balanced lattice	Randomized block
Number replicates	5	5
Rate of seeding	40 pounds broadcast	40 pounds broadcast
Fertilization (1955)	2-1/2 tons lime 800 pounds 3-12-12 900 pounds superphosphate 50 pounds complete minor element frit	
(May 1957)	500 pounds 0-14-20	
Dates of harvesting		
(1956)	May 7, July 25	May 11, June 18 July 16, August 8
(1957)	April 30, June 11 July 10, September 12 November 5	April 24, May 29 June 18

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Table 46 Regional Alfalfa Variety Test [1/]

Main Experiment Station - 1958 Blount A6

Yields in Tons of Dry Matter Per Acre (Mean of Four Replications, Randomized Complete Blocks)

Variety [3/]	1958						1957	
					Season Total		Season Total	
	12 May	24 June	11 Aug.	27 Oct.	Yield	Significant [2/] groups, P = .05	Yield	Significant [2/] groups, P = .05
Du Puits	1.27	.87	.87	.10	3.11	a	3.50	d
N. C. Syn. B(51)6	1.02	.86	.88	.14	2.90	a b	2.87	e
Vernal	1.12	.64	1.02	10	2.88	a b	2.76	e f
Williamsburg	.98	.70	1.02	.14	2.84	a b c	2.50	e f g h
Narragansett	1.15	.62	.96	.09	2.82	a b c	2.64	e f g
N. C. Syn. D(51)10	1.08	.71	.90	.13	2.82	a b c	2.78	e
Buffalo	.98	.63	1.01	.10	2.72	a b c	2.51	e f g h
Atlantic	1.01	.63	.93	.13	2.70	a b c	2.44	e f g h
N. C. Syn. A(51)5	1.07	.68	.81	.11	2.67	a b c	2.64	e f g
Lahontan	1.00	.57	.89	.14	2.60	a b c	2.20	f g h
N. C. Syn. D(51)12	.96	.60	.91	.12	2.59	a b c	2.72	e f
Indiana Syn. F	.94	.58	.92	.11	2.55	a b c	2.48	e f g h
N. C. Syn. B(51)7	.88	.52	.81	.16	2.37	b c	2.53	e f g h
Caliverde	.73	.45	92	.16	2.26	b c	2.04	h
Nomad	.86	.35	.80	.17	2.18	c	2.09	g h
					S = .4097		S = .3416	
					C.V. = 15.4%		C.V. = 13.2%	

1/ Planted on August 24, 1956. Fertilized with 800 lbs./A of 4-12-4. September 3, 1957 - 250 lbs./A of 0-20-20.

2/ Variety yields followed by the same letter are not significantly different at the indicated probability level.

3/ Seeded at the rate of 20 pounds per acre.